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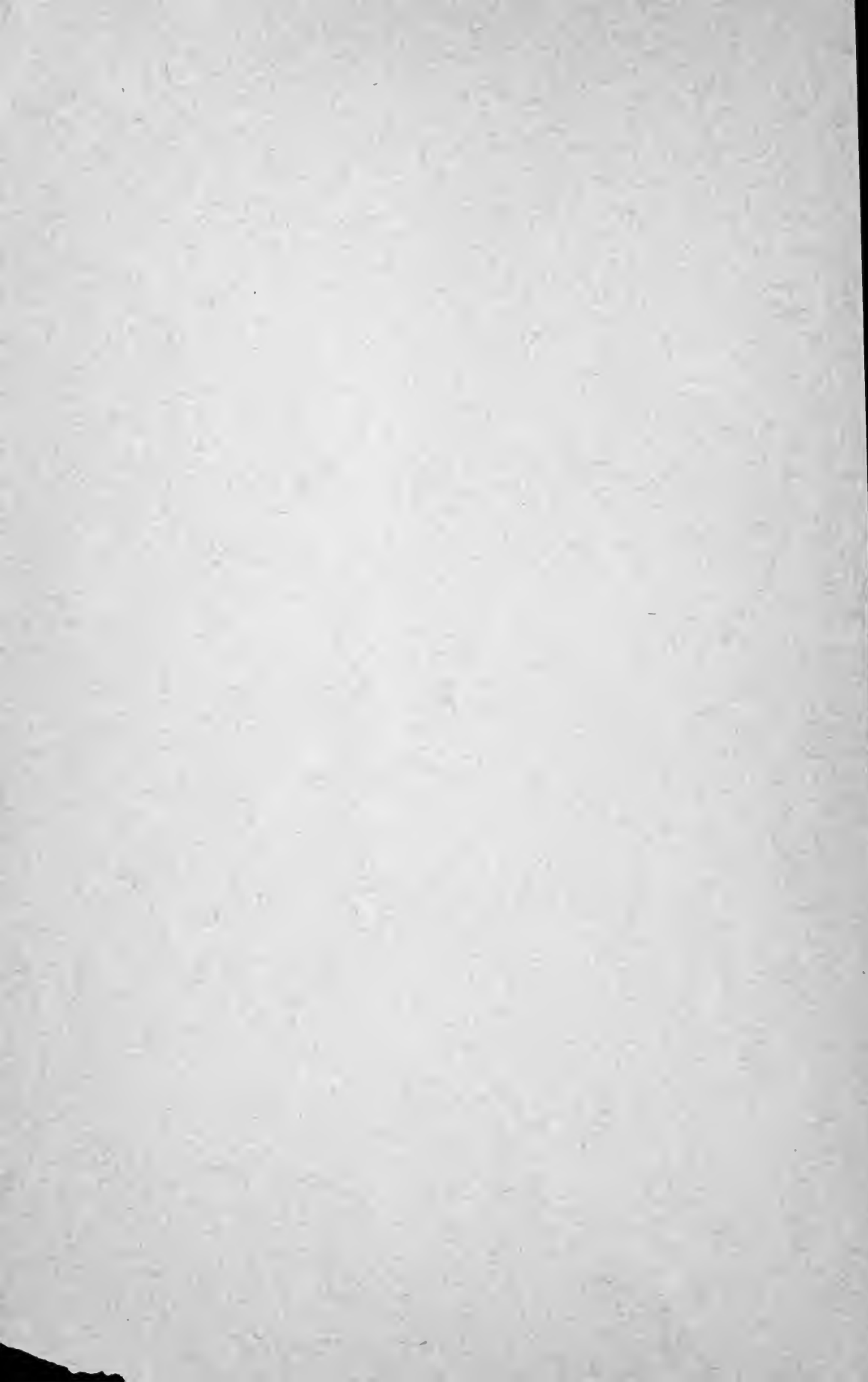
HOW TO MAKE MONEY  
OUT OF  
INVENTIONS

AN  
ADVISER FOR PATENTEES.

BY  
AUGUST SCHEMMEL.

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NASHVILLE, TENN.  
C. LEROI, PRINTER, N. CHERRY ST.  
1890.



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1890.

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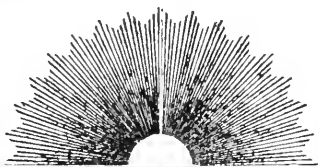
As generally the introduction is not read, I put the above caption over mine. So far as I am aware, no author has ever tried to write a help and guide to inventors, though every inventor must acknowledge that such a guide is necessary. The position of most inventors, I find after long observation, to be the following :

In a lucky moment the invention was born. With hard toil of perhaps months and years the inventor worked at the product of his mind before it was finished. Full of hope, he has at length completed it, and waits for the granting of his patent. That happy moment comes. He has his patent. Yes, but what now ? He must make the patent profitable, and that is often very difficult. Sometimes all trials are unavailing, and why ? Because he did not introduce it himself. It is a well known fact that no one can speak as well for a thing as the inventor himself. No one can explain all the uses and value of an invention as he can. It is therefore not advisable to trust to a stranger anything that can be done by the inventor.

To help and advise inventors I have printed this book. In it will be found all that is necessary for the realization of an invention : The names of thousands of firms, which will be of use for the selling of patents ; brokers, if one wants to sell stocks ; newspapers, for advertisements ; and contract formulas. In fact the inventor can find in it every thing that is necessary to enable him to help himself. Wherever I could I have given examples, so as to make it more clear, and also to make the reading matter as interesting and attractive as possible, and to show what this or that inventor was capable of doing.



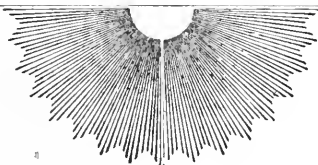




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## CHAPTER I.

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### USEFUL AND INTERESTING.

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IT is an old truth, that the ability to invent and the capacity to turn the invention into money, is very seldom united in one head—just as scholarship and philosophy rarely stand together. Though an inventor must have technical knowledge, in most cases, still his mind takes a different turn from that of a merchant and seller. While the eye of the inventor looks thoughtfully on the problem of his mind, the merchant looks in the distance. On account of this difference it is easily explained why the merchant's view of an invention is quite different from that of the inventor. The merchant regards the invention as he would any other salable article, though he too can be mistaken in its value; but the inventor sees his invention only through the eyes of a lover, or as a mother would her child, or an author his book. To this physiological discord, in regard to the value of the invention, others are added from the circle of critics, which help to tangle up the opinion. Even the locomotive, steamboat, and the sewing machine had much skepticism to conquer.

We must excuse if many inventors meet us with a great deal of self-consciousness. The world has sinned much more through its unbelief than inventors have by their over-estimation. The goal of the inventor is generally the making of money, so he always tries to sell or use his patent in the most advantageous way.

The needs of inventors, whom study or accident gave a lucky idea, are vastly different. Not every invention can be used, and not every idea is an invention. How many old ideas are thought about as new, and how many people are working on a "perpetuum mobile" yet? "Not every ignorant man is a dunce," Seume says, and so it happens that many a learned head tries problems which will never bring him any good. Any help which prevents the throwing away of money, time and wisdom is therefore a great boon.

One could ask, when will the period come when nothing more can be invented, when everything is so good that no improvement is necessary? To this I will answer, that as soon as a land stops to make progress it is going backward. Inventions arise out of the discoveries of wisdom. As this always shows the material in new and different lights, so inventions help to give us new uses for them. The development of inquiry for many necessities, is the attraction to find out something new and better. Even the labor question has supported the progress of invention; especially the United States have shown that high wages aid the advance of machine work, and, through this, have a good effect on industry. The area of inventions and the development of them

is so great that the human mind has, and always will, find something new. It is a good sign of our culture that industrial advance must not always be paid with the martyrdom of the person, but that it often helps him up to a fortune and social standing. Inventors stand on a level with statesmen and scholars, and those who inherit wealth and title; for the good derived from inventions, and the energy and sharpness of mind which is bestowed on them is not behind science or statesmanship.

That one can earn money, and sometimes a great deal of it, through inventions is only the acquirement of the last century. The ancient records do not tell how much this or that celebrated philosopher, poet or artist earned. The middle ages, also, do not record much of the private life and financial standing of inventors. Under the progress and intercourse of city life, and the influence of geographical and scientific discoveries, industry makes advances which the ancients never thought of. Art enriched itself with oil-painting and the many engravings; strategy with new weapons and ways of transport; house-furnishers with beautiful fire-places, expensive carpets and articles of luxury out of glass, delfware and metals. Goldsmiths wrought, with wonderful patience, things which will even now create envy. The most valuable thing on earth, time, was obliged to submit to a more complete control through watches and clocks. Human thought was penned up in the insignificant little signs which typography called into life.

The middle ages record more of the life and earnings of painters, sculptors, architects and alchemists

than of inventors. Any way, the inventors could not make money until the state granted them a right of possession. Such a right was first issued in the sixteenth century, by a state which was very anxious to advance in industry. In England the first patent was granted in 1623, though, of course, this was a very simple thing, called a privilege, and was granted to the inventor for a certain number of years. In the year 1791 the first was granted in France. Germany had introduced patents already in the beginning of the century, but each little state had its own way of granting them, and therefore in no land was the invention protected as little as in Germany. In July, 1877, there first appeared a united German patent law.

This is not the place to make war against the betrayer of invention rights, and still less to carry it on in the one-sided way that is generally the case. It has no, or very little value to defend or assail the invention right without regarding its relation to other rights. Though the patent right is very incomplete, still it is better than none. Without a patent no invention can bring money to the inventor. A great hindrance to the introduction of new inventions is the "practical man." By this I do not mean the man who works in his special field until he masters it; he has theoretical knowledge enough, if not to invent new things, still to accept what others invent. This is the real practical man, and he can only be praised. But the practical man, as one generally understands, is one who knows all about his article, but nothing else. His look only goes as far as the old; he will

not acknowledge the newest improvements; even the greatest new invention he only calls plan-making. When he finds that an invention is really useful, he will sulkily accept it, so as not to be too far behind the others. But never would he give his money and time for things that the whole world had not already found good. It is this practical man, as I have said before, who is a hindrance to improvements. For years he kept back the use of smelting oven-gases, and it is his fault that now so much of this gas is allowed to escape. It was such a man who, when the optical telegraph was invented, said, "Do not use this manner of correspondence. I am a practical man, and I believe that the best way is to sit down, write a letter, give it to a messenger and put this man on a horse." In the next generation his follower would say of the telegraph with its unseen power for transmitting sound: "I do not believe in your unseen power. I am a practical man, and believe only in the optical telegraph, which I can see working." Just so the practical man acted when they showed him the Siemens regenerator oven. "Nonsense," he said, "you turn coals to gas and then burn them again? I am a practical man, and when I want heat I light my coals and burn them." No better did he think of the Bessemer steel. The behavior of the practical man has also the following reason: If anybody comes to him with improvements and offers them to him, it offends him, and he cannot understand how a stranger, and a man perhaps younger than he, who, it may be, does not understand every thing of the branch which he wants to improve, can make any inventions in it.

Sometimes the owners of large establishments are technical men, but generally they only think of the selling part. In such cases the decision falls to the lot of the headman, who is often, for some reason or other, a practical man.

Of course, it is true that more than one-half of the patents are useless; still the advance of the nation is dependent on them. The army and the navy, the whole strength of the nation depends on the restless, eager inventors. Many inventions are suppressed through the efforts of the practical man. Think of Bessemer! Long years he worked in vain. The practical man laughed at him, and put many hindrances before him, but he won. Did Watt, Stephenson or Faraday have any better lot?

Many professional inventors ought to be suppressed, but still it is always better to endure them than to act like the practical man, who watches another build a house without helping him in the least, and, when it is finished, is ready to move in, and even like the cuckoo, crowd out the rightful owner and live in it alone.

The inventors, hurt because the money and the people do not run after them, very often because they do not know how to use their patent profitably, especially if it is a foreign one, permit their self-assurance to sink slowly to the freezing point. They forget when they have to bring their patent to the market, and that the taxes are not paid, so little by little the patent becomes void, and leaves the owner nothing but the knowledge that he once possessed patents. Often it is the inventor's fault, who, after giving much money toward making the patent, does



not give enough to advertise it. He thinks that millions of people have been waiting for his patent, and will receive it gladly and pay thousands for it.

The value of an invention lies not always in its real worth or the wisdom and energy of its inventor, though this is nearly always the case. Luck plays an important part, but I will not say that it always helps those who are forsaken by Minerva.

To lay an invention before the eyes of the world and keep it there, one needs a firm will and a firm belief in the thing itself. The plain idea of an invention can arise out of many reasons, and is not always the principal thing; it can be the result of hard study or of an accident.

Now and then an original mind strikes a new vein and gives the inventive human a mighty impulse which lasts through centuries. Most of the inventions are not entirely new, but only modifications and improvements of old ideas known to very few and not in public use. When we read the story of mechanic inventions, we often see a new idea which suddenly vanishes and is not heard of any more until some one, on account of the needs of his time, commences it anew and following the footprints of the others, makes it successful. There are inventions which are invented before their time, these are projects which, because there are not means enough to complete them, must wait until they are needed. This explains why many inventors now can do what their predecessors were unable to do. Louis Napoleon says the following on this subject: "Inventions which are ahead of their time must remain unused until the common intelligence rises up to them."

The circumstance that most inventions are products of the past is used by a kind of socialistic law to put down the fame of inventors and even to try to assail the patent rights. Of the first part of this attack, which assails the fame of an inventor, Reuleaux, the famous author of the *Kinematic*, remarks: "When I would try to show how new machines and new mechanisms are built, I do not intend to put down the value of inventions in the machine field. I only would find for the inventive head new and valuable means to work. I want to raise the ideas, not to put them down. Only one who has not invented old things, that is, spent much time on a subject and then found that some other person had made that before, can look down on inventors that have done this. Often they say it is the inventor's fault, but it is very easy to do this."

The ownership right of inventors has as just a claim as all the other rights. Some one can accidentally discover a mine, and yet the law gives him sole right to it.

The right of patent ownership is the simplest among its fellows. The proud right of the land owner is first, and is followed by the simpler of the capitalists, the mine owners, the authors, the artists, and last of the whole row the much abused, limited, highly taxed inventors. It plays the role that philosophy has under the sciences, according to Kant. Though the queen of them all, it carries the light for others.

What an invention is, and especially a new invention, people never agree about. As before mentioned, there are very few entirely new ideas, which no

man has thought about, and which would sink the words of Ben Akiba, "There is nothing new under the sun," into the ground.

The writings of gone centuries have in them thoughts and ideas which are very much like ours. For instance, in the works of the learned monk, Bacon, we find these interesting remarks : "I will point out some of the wonders of beautiful nature, which are no magic art, and which no magic art could produce. There may be instruments made with whose help one man can make a ship sail faster than those filled with sailors. One may make a wagon which will ride with unbelievable fastness without horses or any other animal in front of it. And flying machines will be constructed in which a man can sit comfortably and fly above in the air like a bird. A little machine will be invented with whose help a man can pull thousands of his fellow-creatures even against their will, to himself. Also, machines with whose help man will be enabled to descend into the depths of the ocean without danger."

This one extract shows us that our forefathers had just as many ideas and just as good ones as we, and that it would be very hard to say and prove that any idea we now have is absolutely new. Between an idea of an invention and an invention itself is a great step. By some inventions the central point is the idea, in others the practical development of it. For instance, after the treatment of vulcanization and hardening of India rubber was invented, out of these few inventions ever so many others were made ; the India rubber was used as water-tight material, elastic beds, and many other things ; almost in every busi-

ness it is needed. It is made into jewelry, stamps, billiard balls, and pressed articles of many kinds. In short, the ideas were here the principal things, and not the technical difficulties.

We are satisfied with saying that all things are new inventions if they are a good deal different from any thing of the same kind already invented. Accordingly, if the difference is large we call it a new invention; if smaller, an improvement or an enlargement. As soon as the first sewing machine was made this idea was not new any more; perhaps even before Howe had made his first model, others had thought that an iron tailor would be very good, and, may be, some had tried to make one, without success. Notwithstanding, hundreds of sewing machines were patented, for each one had a little originality.

Who, in our time, has any special work and does not try to know at least a little about the improvements and new inventions in his branch, must be a very strange man. However, just the inventors are very little inclined to compare their ideas with other people's, and study about their branch. Often the inventor is not even very well acquainted with the profession he wishes to reform. Arkwright had, for instance, no idea of textile industry, and only his firm will to complete his invention, helped him through the many difficulties and made him a rich man in the end. Leblanc, the founder of the soda industry, was a doctor; Paxton, whom we must thank for the first world's fair building, was a gardner; Armstrong, inventor of the cannon of the same name, was a lawyer; and so we could give many other examples in almost every branch of industry. It is a plain and well known

fact, that the men who invented the greatest military improvements were peaceable citizens and not soldiers as we might suppose. Just as little as engineers invented powder, guncotton, or dynamite ; it was not they who contrived the torpedo, the field telegraph, and many other things so essential to our modern strategy. All these inventions came from private technologists. All these things must be regarded, if one has to judge inventions of amateurs. If there is a little doubt on the part of professionals, still they should always bear the above mentioned facts in mind.

The examination of an invention to find out whether it is new or not must be treated in various ways, if you want to find out in foreign lands or in your own country. For when an invention is found new in one country and is protected through a patent, this may not be the case in other countries, and what is really new in one may be long invented in another, or even obsolete. It is astonishing, sometimes, how long it takes for a thing that is really useful, to find its way from one country to another. Before the sewing machine came into use in Europe, eight years had passed, and while England and America used steam-engines, it took long for the continent to follow.

It is not always the great inventions that bring riches ; no, quite simple, common things of daily use. Even more or less useless things can make a pretty good profit if they are patented. During the world's fair in Philadelphia an American named Cooke had a so-called continental fan, in the shape of an American eagle, patented and sold the fan at five

cents a piece, selling 700,000 fans, and making considerable profit. Great inventions do not always pay immediately. Bessemer used up many thousands of dollars before he got even a penny out of it, and if he had then lost patience and stopped putting money in he would have lost all.

As the inventing and trying of a patent is the technologist's part, so the selling and making into money is the merchant's. In short, after a man has invented something he must turn into a speculative merchant to sell it. To give rules for the sale of a patent is very hard and nearly impossible. Examples of how others use theirs is the best way to find out. Therefore, in another chapter I have mentioned some. In most cases, however, the talent and luck of the person must help.

Not always, nay, scarcely ever, has the patent holder money enough to build a factory for his article himself. Very often he has to ask for help to be able to patent it. The way to find out who will lend money, is to advertise in the newspapers. In many cases active partners are not necessary, and one finds often private gentlemen, widows with some capital, and clerks, the most willing to assist in the manufacture of a good article, and by it increase their property. These, of course, are also the people who are cheated out of their little money by swindlers, because they are simple and believe easily. The story of great sensational patents and inventions is often a swindle. I know a case of a man who, with the help of a refusal of the patent office, of which he showed only the upper half, succeeded in making a good natured banker lend him fifteen hundred dollars; another in-

ventor of this kind entrapped a harmless restaurant keeper and swindled him out of sixteen hundred dollars. Every good idea may be misused, and we mention the above for the good of patent holders and inventors, to show them that it is not always an active man who will lend them money.

At the end we will say what good patents do for some classes. In what degree they are useful among working men, one can read out of the report of an English manufacturer. He tells first, that though he possesses many patents, he never invented anything, but that he bought them all. Poor men and working people were those whom he bought patents from. In his whole neighborhood he knew of no employer who had invented anything. Once he went into a poor hut and there found a man working on a machine which was fastened to a wooden chair, the only one in the house. This machine was patented and he himself was the owner of the patent.

## CHAPTER II.

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### WHAT IS A PATENT?

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With the name "Patent," "Erfindungs-Privilegium, (invention privilege,)" "Brevet s. g. d. g., (sans garantie du gouvernement, without guarantee of the government,)" one designates the received permission to manufacture a newly invented article, or to make anything with a new process, during a certain number of years, in a certain country. The receiving of such a privilege and the holding of it during the longest time is dependent on the fulfillment of certain things.

These patent laws fall into two groups, one the application and the other the examination.

The application used in Belgium, England, France, Italy, Luxemburg, Norway, Austria, Portugal, Sweden, and Spain, does not give the patent holder the least guarantee that his patent is new. It simply consists: that with the addition of a patent taxes receipt, description, and perhaps drawings and model, the inventor presents to the magistrate a petition to grant or give a patent to the invention described. If this petition and the description, drawings, etc., are written and sent in a formally correct style the patent



will be granted, without an examination to find out whether it is new or not ; it being supposed that it is new. If, now, after some time, perhaps, it is found that the invention was not new it gets void and is lost. The examination, at present only used in America, Canada, Denmark, Germany and Russia, is not only in regard to the formally right application, but also to the newness of the invention, and in America, Canada and Russia it even regards the usefulness.

But not even this examination can give a positive guarantee, for even the patent officers may overlook something, and the patented invention may not be new. Any way it gives a greater security and certainty of the validity of the patent than an unexamined one. The invalid declaration of a patent can occur during any time between the granting of the patent and its expiration, and may happen because it is not new, or because the inventor carelessly forgot to pay the dues. In most cases there must be a third person who hands in the declaration and gives the evidence.

## CHAPTER III.

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### WHO CAN RECEIVE A PATENT.

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WE must distinguish—

- a* Invention patents.
- b* Introduction patents.
- c* Improvement patents.
- d* Addition patents.

*a* Under invention patents, to distinguish them from introduction patents, one understands the first privilege to manufacture an article in any country. This is granted without caring what nationality the applicant is, whether a foreigner or a citizen of America, Belgium, Canada, Germany, England, France, Italy, Austria, Portugal, Russia, Sweden or Spain, but only to the original inventor, or his descendants and substitutes.

In Luxemburg, only to a native inventor.

If a man who is not authorized has applied for and received a patent, the real owner and inventor can dispute with him for the patent.

In Denmark and Norway, the one who mentions or applies first to the magistrate.

*b* Introduction patents are those which are patented in foreign countries, and are now sought for in this

country, therefore are applied for after the first patent is gained. These can be applied for and received by any one who is first, excepting in America, Canada and Sweden, where they are only given to the foreign inventor or his descendants, and in Austria, only the foreign patent holder or lawful descendants can get it.

*c* Improvement patents are patents on improvements of already patented inventions, without hindering the rights of a third, and everybody can receive them. In Russia, however, during the length of the original patent, only the holder can get an improvement patent. In some other states a certain time is reserved for the holder of the principal patent, during the limits of which he alone can get a patent on an improvement of his article. In France, one year; in Italy, six months; in Portugal, one year.

*d* Addition patents are improvement patents which in Belgium, Germany, France, Italy and Spain, are granted as additions to already existing patents. These only the holder of the original patent can receive. They are not subject to yearly taxes.



## CHAPTER IV.

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### WHEN MUST FOREIGN PATENTS BE APPLIED FOR?

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IN France.—Before the invention is anywhere described through prints, or is in any way published so that any expert third can make it.

IN Spain.—Invention patent for 20 years.—As the above, with the further rule that the invention must not be patented in any other country before the application.

IN Spain.—Invention patent for 10 years.—At the latest, within two years after a patent has been granted in another country.

In Belgium.	} For invention patents. Before the invention has come into use in any country, or is anywhere described through prints or is published so as to enable an expert third to make it.
In Denmark.	
In Germany.	
In Italy.	
In Luxemburg.	
In Norway.	
In Sweden.	
In Portugal.	
In Russia.	

In England.	}	Before the invention is manufactured by a third, or brought to sale, or if it is so described as to enable an expert third to make it.
In Austria.		

In Canada.—Within a year after it is patented in another country.

In Portugal.	}	For introduction patents.
In Russia.		Before the invention is manufactured or used in the country.
In Spain,		

I would especially advise the patentee to be very careful in applying for patents in foreign countries. Only apply for them in a certain order, to make them last as long as possible.



## CHAPTER V.

### HOW LONG DO PATENTS LAST?

*In America . . . . .	17 years.
*In Belgium . . . . .	20 “
*In Canada . . . . .	15 “
In Denmark . . . . .	5-10 “
In Denmark, introduction patents, . .	5 “
In Germany . . . . .	15 “
*In England . . . . .	14 “
*In France . . . . .	15 “
*In Italy . . . . .	15 “
*In Luxemburg . . . . .	15 “
In Norway . . . . .	5-10 “
*In Austria . . . . .	15 “
In Portugal . . . . .	15 “
In Portugal, introduction patents . .	5 “
In Russia . . . . .	3-10 “
In Russia, introduction patents . .	1-6 “
*In Sweden . . . . .	3-15 “
In Spain . . . . .	20 “
In Spain . . . . .	10 “
In Spain, introduction patents . .	5 “

Introduction patents become void in the countries marked thus \* at the same time with the first invalid and first applied for foreign patent; in all states where nothing is mentioned they last as long as invention patents.

Addition patents never last longer than their original or invention patent.

## CHAPTER VI.

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### OF GREAT IMPORTANCE TO OWNERS OF FOREIGN PATENTS.

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IN the patent laws of all foreign countries, with the exception of Germany's, is a paragraph which says that if a patent, through any circumstance whatever, should become void, the patent in this land will also expire; in other words, if in Belgium, for instance, the owner forgets to pay the tax or neglects anything and the patent is lost, he will also lose it in all other countries, with, of course, the exception of Germany. The principal reason that so many patents are lost is because the owner forgets to pay the yearly tax. We therefore mention all the countries where it is exacted:

1. Belgium, 10 francs, and for every following year 10 francs more; that is, for the second year 20 francs, third year 30 francs, etc.

2. Germany, for the first and second years, 50 marks, and then for the other years, an advance of 50 marks per year, making 100 marks for the third, 150 marks for the fourth year, etc.

3. France, 100 francs every year.

4. Italy, for the first year, 50 lires, for the 2-3d years, 50 lires; for the 4th-6th years, 75 lires; for the 7th-9th years, 100 lires; for the 10th-12th years, 125 lires; for the 13th-15th years, 145 lires.

5. Austria, for each of the first five years, 26.25 florins; for the 6th year, 39.37 florins; for the 7th year, 46 florins; for the 8th year, 52.50 florins; for the 9th year, 59 florins; for the 10th year, 65.63 florins; for the 11th year, 78.75 florins; for the 12th year, 91.87 florins; for the 13th year, 105 florins; for the 14th year, 118.13 florins; for the 15th year, 131.25 florins

6. Russia, for the first year, 90 rubles; for the 2d year, 120 rubles; for the 3d year, 180 rubles; for the 4th year, 240 rubles; for the 5th year, 300 rubles; for the 6th year, 360 rubles.

7. Spain, for the first year, 100 pesetas, and for each following year, an advance of 10 pesetas per year.

Furthermore, a correct patent can be lost through the following reasons:

A special examination to find out whether the article is new or not takes place in very few countries. This examination, and the patent afterwards received, does not guarantee that the patent is absolutely new and valid to its end. Everybody in this country, as well as in those where no examination takes place, has the right to insist on its annulment if he thinks it is not new, and if he can prove it old it is annulled.

In England a patent which has several new points gets void if one of the points was old when the patent was applied for.

If an inventor and patent-holder expects such a writ of error, they can meet it with a disclaimer before it has been presented at court.



In England and France it is lost if the invention proves to be useless.

If the patent is not renewed in time in Canada, England, Italy, Luxemburg, Austria and Portugal it is lost.

It is lost if the inventor has not manufactured the article in the given times, as follows:

Belgium, within 1 year after the manufacture in another country.

Canada, within 2 years after receiving the patent.

Denmark, " 1 " " " "

Germany, " 3 " " " "

France, " 2 " " " "

Italy, " 1 " " " "

If the patent is of shorter duration than six years.

Italy, within 2 years after receiving the patent if it last six years and longer.

Luxemburg, within 2 years after receiving patent.

Norway, " 2 " " " "

Austria, " 1 " " " "

Portugal, within the first half of the duration of the patent, for invention patents.

Portugal, within 1 year after receiving the patent, for introduction patent.

Russia, within the first quarter of the duration of the patent.

Sweden, within 2 years after receiving the patent.

Spain, " 2 " " " "

In France and Canada, if the patent-holder and

his partners import the article into those countries, or if it is imported with their knowledge.

In Germany, if the state buys it for use in the army, fleet or for the public welfare, and in Portugal, if it is useful to the public.

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## CHAPTER VII.

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### WHEN IS AN INVENTOR ALLOWED TO MANUFACTURE AND SELL AN AR- TICLE FOR WHICH PATENT HAS BEEN APPLIED?

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In all countries, with the exception of Denmark and Norway, as soon as he has sent all the manuscripts, drawings, etc., which refer to the invention to be patented, and are necessary to the attainment of a patent, also the tax which is required, to the magistrate.

In Denmark and Norway from the first day the patent is issued.

## CHAPTER VIII.

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### THE VALUE OF A PATENT.

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It is very natural that every patentee thinks his patent will make him a millionaire. Many believe that some rich man has been waiting to offer him the money for the patent. A gentleman said he had invented a new electrical apparatus, and asked \$300,000 for the patent, and he would not even give evidence whether the apparatus was good or not. He thinks it is self-evident that *his* patent is the most useful in every way. Of course, nobody would give such an enormous price, and the consequence was that the patent was never manufactured, and in six months another man had invented something very much like it, and as he understood the business better, made lots of money. Much the same fate Dela Bastie had with the German glass manufacturers. He thought his hard glass method for Germany was worth ten million francs, and he asked one million for his invention. The result was that he was very artfully cheated out of his invention, and made little money with it in Germany. Such examples I could give by hundreds, and prove that through too much self-assurance and overrating the patent holder

destroys his patent. This is very hard to keep from overrating, for there are certain loose patent agents who tell the inventor that his patent will sell for any large sum, in order to get money out of him

To name a certain sum and say it is the value of a patent, is nearly impossible, as has often been proved, and the inventor can be certain that at the highest he gets only one-twentieth part of the value of his invention, and often only one-fiftieth of its value is offered him. If this strange circumstance is examined, it is generally found that it is the fault of a certain unbelief on the part of the buyer. For even with the best patent, he can never be sure whether he will lose or gain by buying it. This insecurity drives away most purchasers. If the patent is very enticing, it may find many who want to buy it, but the price is lowered a good deal on account of the distrust.

The first thing that is of great importance to the buyer is the manufacturing cost. If great sums are needful for this, it will make it very hard for the patent to be sold, as a view of great manufacturing costs always puts down the value of an invention. If this point is decided to the satisfaction of the buyer, his next thought is whether the article needs many advertisements or even traveling men. If it does, the price is again diminished, and so perhaps the inventor receives \$500 for it, while the buyer makes a profit of \$100,000. But what is a patent of this kind worth which the buyer pays \$500 for and makes \$100,000? I think that if the inventor would get 20 per cent. of this, making \$20,000, it is not too much. I am sure that my honored readers will

agree with me, and some, perhaps, say that the inventor ought to get still more. Still one must also think of the large capital which the buyer was obliged to use in order to make the patent profitable.

That inventors may not have bad luck, I would like to give them a system which I think is the most reliable, and most likely to give them a durable and good income out of their inventions. First, only let the patent for a certain royalty, and in the first year for a small one, perhaps 10 to 20 per cent. of the selling price of the article. In the second year, 20 to 25 per cent. of the selling price, etc. Besides, the buyer has to pay the inventor all the expenses of the patent, etc. From all these revenues the value of the patent comes all by itself.



## CHAPTER IX.

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### THE KIND OF INVENTIONS THAT FIND GOOD SALE IN FOREIGN COUNTRIES.

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ENGLAND—Machines of every kind, firing methods, transport ways of every kind, telegraph, steam cars, electricity, cotton industry, and others.

France—All the above mentioned, and besides notions, gloves, dress articles, shoes, artificial flowers, advertisement wagons, fancy articles, etc.

Italy may be regarded more as an agricultural than an industrial state. Of the patents granted in Italy, from 40 to 50 out of every 100 are from foreigners. Though there are patents of every kind, agricultural implements and mill works predominate, also articles for vineyards, wagons for wheat, baking ovens, and similar things are numerous, while all inventions that indicate higher culture are absent. Stoves for the heating of houses are not to be found, though they are quite necessary, and under the rubric "steam cars," we find more inventions for the cooling of the cars than for the warming.

Russia—Inventions in regard to the size of the territory are very good, for instance improvements

of steam cars and telegraphs, in the beet sugar line, the manipulating and making into soap of fats, agricultural implements, musical instruments, etc., bring good profits generally.

In Germany and Austria all good and useful United States inventions are easily sold, and at good profits.

Sweden and Norway are, for metallurgical processes, firing and wood-stuff manufactures, very recommendable.

Denmark is very advisable for nautical improvements, as well as advances in agriculture, raising of stock, and fishing.



## CHAPTER X.

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### DIFFERENT POSSIBILITIES TO MAKE MONEY OUT OF PATENTS.

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THE possibilities to make money out of patents are various, and mostly depend on the kind of patent. We have,

1. The selling of the patent for a special at one time payable selling price, to one or more persons or to a company. The buyer gets all rights and profits without any further sum.

2. The selling of a patent for a small sum (which in reality is but to cover the expenses of the patent and all that belongs to it and is regarded as such) and a royalty. This is also to one or more persons or a company.

3. The selling only for royalty to one or more persons or a company.

4. The selling of patent rights for some state, county or city, for a certain sum.

5. The selling of the patent right for certain cities, counties or states, on payment of a small sum and royalty.

6. Renting of the patent rights for certain cities, counties or states, for only a royalty.



7. One makes a certain number of the patent article and rents them. This is best done with machines which manufacture the whole or part of an article. So, for instance, the McKay sole sewing-machine was rented out to shoe factories, which had to pay a royalty for every pair of shoes sewed on the machine. The control was easy; the owners giving the shoemakers stamps which they had to paste on every pair of shoes before they left the factory. In England they had a different method, having in each machine a dial which recorded the number of soles made, and the manufacturer had to pay a certain sum for every thousand. In Germany they hired it for a certain yearly rent. Later on they were sold for good prices, and now about 20,000 of them are in use.

From the above it will be seen how many different ways there are. It is always a very advisable way to sell or rent the patent for a royalty for every piece sold. It is easy to keep control with stamps which the inventor has made and which he sells, for the royalty to the buyer. For machines it is advisable to have little plates made with the stamp of the inventor, and to have these fastened on some part of the machine. To realize foreign patents the best way is to go, after having made good models and descriptions, to the land where you want to interest people. Of course, a knowledge of the language is very important, or an interpreter is necessary. In many cases one can correspond, but only for the contract making it is necessary to travel to the place. What can be done the following case clearly shows: Two inventors packed up a locomotive and brick ma-

chine and traveled to Germany where they even had not a patent. After a few days they had sold it for \$5600. Another example, which shows that it is best not to insist on a fixed price: A Frenchman had invented a new alligation of metals; he had a patent in France, and before he even had the patent in Germany, sent some one there who was to sell it for \$6000. Many would-be-buyers came. The alligation was tried and found good, but all were not anxious to pay \$6000. The Frenchman then said, "I do not care to have a royalty per pound on an interest. I want \$6000 and not less." But nobody came to buy it. Never persist on a fixed sum if you are anxious to sell. I advise all inventors to take what they can get and not to persist on a sum which is too high.

To realize patents which are only improvements of others, and which are invented by one not of that branch, it is not advisable to handle the patent yourself. The best way is to rent the patent to large manufactories and ask a certain royalty. If this is done a pretty profit can be realized.



## CHAPTER XI.

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### IF AN INVENTOR WOULD SELL HIS PAT- ENT WHAT MUST HE THINK OF MOST?

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WHEN he would like to sell his patent he must first make a model of it, that he can prove the invention is all he says it is, or all it ought to be. The inventor must not forget that any one whom he wants to interest in his invention is naturally a little mistrusting and that he needs evidence to assure him. An invention can look real nice on paper and be in reality very useless, therefore a model is very necessary. The next and nearly as important is an accurate and precise description, in which all the advantages and uses of the patent must be especially mentioned. The inventor cannot use enough care on this and the model, as they generally prompt the person to say yes or no. Only have no half models, no incomplete, half finished things, if it is possible, because the same thing can get an entirely different look if it is badly presented. All people look at such inventions quite differently from the inventor. Of course there are things of which no model can be made, which only exist on paper. In such cases it is best to interest people who can make arrangements for the introduction, and who understand the article. If the inventor would

act correctly, he must allow them to use his system free, for they introduce it and deserve a great deal. Let us think of the introduction of the sewing-machine into England. Nobody wanted to buy it, as it was very expensive at first. Not until many had been given away did it begin to flourish. "All beginnings are hard." This sentence is very correct if one talks of the introduction of new inventions. I would like to press the inventors to be very modest in their expectations at the beginning, so that they may find people who will take their invention to manufacture, introduce and bring to the market. When the patent is introduced the inventor can raise the royalty and ask a sum 20 to 50 times as high as at first. Those inventors who believe the whole world will run to them are greatly mistaken. When, at the beginning of 1870, Solway, the inventor of the soda-ammonia process, came to Frankfort-on-the-Main and invited the soda manufacturers to come and see him and he would explain it all to them, not one came, and he had believed they would think it a great honor.

Professor Morse, the inventor of the telegraph of the same name, tells us that when he was in Washington to see if he could not induce the government to have the telegraph line from Washington to Baltimore equipped with his patent, he had placed his instruments on both sides of the capitol to show the members of Congress how they worked. As he talked he saw that some, but very few, believed and liked his machines, but more looked at him distrustfully, while others even thought him a swindler. It was toward the end of the session and about 400

bills had to pass before his, so he went home with but fifty cents in his pocket, having spent all on the instruments. He had a very sleepless night, but next morning found that his bill had passed, and a new era founded in telegraph inventions.



## CHAPTER XII.

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### HOW THE PATENTEE CAN FIND A PURCHASER.

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(1) He must get himself copies of his patent from the Patent Office in Washington. (20 copies for \$2.00.)

(2) He must, if possible, make a model, perhaps smaller than the original, for even that shows the working and shape of the machine better than a drawing. But if a model is impossible, a good drawing which shows the whole of the invention must be made.

(3) The inventor must write an accurate description of the patent and all its uses and advantages, so that a buyer can see them without trouble.

(4) The inventor has to choose, out of the list of firms in the second part, those who can use his patent, and make his offer to them. Here I will warn the inventor again. Never, if a buyer comes, chase him away by persisting on a fixed price. Always be modest. Further, it is advisable not to sell smaller rights than state rights, and not to give them for royalty; for if city or county rights are given, the inventor has thousands of troubles to silence and will be continually at law.

## CHAPTER XIII.

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### HOW MUCH PER CENT. IS THE AVERAGE ROYALTY?

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The royalty that a manufacturer has to pay the patent holder or inventor for the manufacture is between 5 and 10 per cent. of the selling price. The per cent. is always in regard to the article manufactured. If it is a small thing and has to be made cheap, the per cent is smaller; in this case the quantity must bring the money. If it is an article which has a large selling price and no competition to be feared, 15 per cent can easily be charged; even 20 per cent. has been given, but that is very seldom. It is for the interest of the patent holder not to ask too high a royalty, for he then, through that, compels the manufacturer to raise the selling price and that may hinder the selling a great deal.

How large a royalty can be asked is best seen by referring to the case of Bessemer, inventor of the Bessemer steel. He received from England and the United States a royalty of a few cents per pound of steel, made by his process, and his income was more than a million yearly.

## CHAPTER XIV.

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### TO FIND A PARTNER.

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I have often heard that when patentees seek money they say, "I will take a partner." I have also noticed that it is easy to find one, but I have seen that at the end the partnership was very often not as nice as it promised to be at the beginning. The cause of this we mostly find is the reason, that the partner, though he furnished the money, had no business talent, or did not care to attend to the business. Another cause is the unfriendliness of the partner to the patentee. The partners often think that their money is everything and they forget that the patent is the main part ; for without a patent no partner.

The patentees generally look for a partner with much capital, though he may have little business talent, while they would do better with one who had more talent and less capital. My experience has taught me that patentees have very little business talent, therefore they need a good and talented business partner.

In making agreements with a partner, I would advise the patentee to be careful and see that in case of a separation, the patents and inventions should



always fall back to the patentee and without any special compensation. Should the partner not agree to this, but want a payment, it is best to fix a sum in the agreement.

The best way to find a partner is to advertise in a newspaper; in large cities, also by going to agents.

The portion which the patentee can ask in partnership is between one fourth and one half of the profit; generally one third. In contracts where the partner receives a certain per cent. on his capital, before the profit is divided, the patentee always receives one half.



## CHAPTER XV.

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### TO BORROW MONEY.

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The patentee can borrow money easily from a bank or banker, if he is a well known business man. Besides this, the patentee can have money from private people if he mortgages his patent, or gives any other security. As the easiest way to find such private persons, I advise newspaper advertisements. Newspapers for this purpose are in the second part of this book. Besides this, he should offer higher per cents than usual, and should mention this in his advertisements. It is also advisable to offer the lender a small portion of the profits, thus making him a silent partner, which is very recommendable. If the patentee acts according to this plan, he will easily see all his wishes gratified.



## CHAPTER XVI.

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### THE FOUNDING OF A STOCK COMPANY AND THE SELLING OF STOCKS.

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If a larger capital is required for the manufacture of a patent, it is always best to found a stock company. For the foundation of a stock company the patentee unites himself with some gentlemen, thus forming a corporation, which must be entered in the state according to the law. The expenses of this act are very small. A good way to sell the stocks is to guarantee a certain per cent., especially for the first year. The stocks are easily sold if they are given to stock brokers, who of course charge extra for this work. Another good idea is to give the broker an interest in the company. Firms who sell stocks you will find in the second part, under Stock Brokers; and addresses of Stock Certificate Printers under Bonds and Certificates.

It is not advisable to found the company on too small a scale, in proportion to the patent. The inventor generally receives a royalty, his selling price in stocks mostly, and has an important position, like superintendent, director, etc.

How easy it often is to found a stock company for the manufacture of a patent, the following proves :

Several years ago a poor German chemist came to the United States. He had invented a new chemical process to make a certain chemical product out of other elements, and much cheaper than it had ever been done before. He found somebody who lent him, on his apparatus and books, for very high per cents (I believe 40), a certain sum of money. With this he had his invention patented. Then he went to a patent agent who said he would sell his patent. The poor inventor had to pay some twenty dollars in advance, but all without luck. He was in a very helpless state, without money, his books and invention mortgaged, knowing very little of the language and habits of America. At last he went to another man. This man, though a German also, had been in this country for some time and knew its language and ways. He promised to help. The inventor, after a few days, went again to the man's house where he found some other gentlemen, one a pretty good chemist. The inventor showed him the process and all was found to be right. They formed an association and sold their stocks easily, because they offered an interest of 14 per cent. the first year. At the beginning they had only enough to pay the corporation and printing expenses. But then they built and manufactured, and in a few years they all were rich.

I think such corporations are founded nearly every day and generally have success. The ground work and success depend entirely upon the value of the patent.

## CHAPTER XVII.

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### WHAT IS THE BEST WAY TO INTRODUCE PATENTS?

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IN answer to this question we must leave the firm ground of objective and step on the unsafe of subjective views. Out of this we can see that we can say nothing positive, and can only suggest a pattern for a frame which may be arranged to fit each picture. To divide the most plentiful material, even the least bit, we must separate it into two classes, in business patents and speculation patents. Under the first head we will understand such patents whose inventor is in some business, and can and will use it in his own store; or those that went into the hands of a business man for this reason or purpose. With the name of speculation patents we endow a great class of patents which are in the hands of neutral persons for selling, and those which are not yet in the hands of one who will make use of them.

We will turn at first to the business patents and remark right away that these must of course be good, useful patents.

The following rules, in which we will try to tell the business patent holder what he shall and what he shall not do, are only in regard to those which are useful.

1. "Try the invention thoroughly before thinking of bringing it to market for sale."

Too often it happens that a patent holder cannot wait, being in such a hurry that he publishes descriptions and uses of it while he is yet experimenting with it. If people wish to buy the article then, he must either tell them that it is not yet complete or he will sell it to them so and cheat them. Then it does not take long before all newspapers and other inventors commence abusing the patent. When the inventor then finishes the improvements on his article, and puts it before the public, it takes long before he can get anybody to believe him.

2. "Try to make the article as good and cheap as possible."

To be able to do both these things at once it is necessary in most cases to make as many of the articles as possible, and then find a place to dispose of them, and

3. "Seek to interest many people, in fact as many as possible, in it."

By giving high profits to agents, and putting your own profit as low as possible, is the soonest way to attain this result. It is better to make much, good and cheap, with little profit on each, than little, good and expensive, with high profit on each piece. For when much is manufactured at once it can be done more evenly and better, because the work can be divided.

4. "Use the press to advertise."

Through discussions in good papers you can interest many for the article, and through solid advertisements can support the sellers.

5. "If the worth and subject of the article allows you to have, (besides the agents and again sellers,) traveling agents, it is recommended to do so at the beginning. In all cases the inventor must send it to the exposition, as this helps more than is generally supposed. Going to speculation patents, we will mention the following as the best and most useful ways."

1. "Make the patented article first and not spend time and money to get people to interest themselves in an article which is only described on paper."

This is not only to be observed by transportable things but also by original treatments. As soon as you are able to show one perfect apparatus or certificates of the good this or that improvement did, you can sell or find good agents much sooner. If you can pay some money you should always lead your own invention, for nobody can make an article sell so good as the inventor himself.

2. "Bring the patent to market first in you own country, and then, supported by the good luck here, proceed with the foreign patents, if you have any."

On this little patience trial many inventions have already been wrecked. Most inventors, immediately after getting into possession of their patent, believe that everybody knows the patent as well as they. With great expectations they proclaim it in all countries, and as no recommendations are there, nobody will buy it. Little by little the inventor loses courage, and with it all his friends and helpers, who are discouraged, for all their assistance did no good. At last the whole thing is gone and the inventor has only

his paper patent, perhaps debts, and anger in his heart for his mistaken genius.

3. "Do not ask too high prices."

The wish of most inventors is to sell their patents fast and high priced. We cannot be angry at them for this. It is unnatural for the purchaser of a patent to buy it for all time, for who can guarantee that the inventor will not make a new improvement on it and then sell that to another. Besides this, nobody knows if an invention that is good to-day may be useless to-morrow, for a new invention may appear which is much better than the old one. The money paid would then be thrown away. I can advise the following and believe it would be perfectly just for both parties: "A small sum to be paid to the inventor for his trouble and expenses, and then a certain part of every article he sells. In short, all that was said in regard to business patents can be used here too, especially the use of the press and the sending to the exposition, to wake the interest and call the attention of the public to the new patent.





## CHAPTER XVIII.

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### ABOUT ADVERTISEMENTS.

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A FITTING advertisement is good for the best inventions, perhaps even necessary. Advertisements are a great ruling power now-a-days; the most extensive and most effective branch of papers for this purpose being the political dailies and weeklies. Insertions in the editorial columns are always better than among the advertisements. For really good inventions the newspapers print for nothing if you give them the fitting text and cuts. If the public in general should be interested, daily and weekly papers and periodicals are best. But if experts are to be attracted scientific and technical papers are to be preferred.

Besides newspapers there are many other ways of advertising, and I am sure every inventor will find the right way. One of the best advertisements of small articles was that of the blacking maker, Warren, in London. He had an advertisement written on the Egyptian pyramids, "Buy Warren's shoe blacking. It is the best in the world." Every body scolded on account of the profanation, but he was known now, and in a little while became a rich man.

A very good way of advertising is that of giving lectures to a chosen public, about the uses and advantages of the article.

Another good way is to send an article or a model of it to an exhibition. A bad side of this is, the great expense which sometimes can not even be paid by all the good the exhibition of the article does. If one sends an article to such an international exhibition the article must have international value if one would gain anything by sending it there ; also, the factory must be so located that the goods can be sent to all sections without trouble.

A small compensation for the trouble of sending to the exhibition is their premiums. Though they do not always have a good moral influence on the receiver, still they are good advertisements and are better than most others. Advertisements are to-day worth more than cash and generally must be bought with it. Large firms hate to be without their paper, on whose pages all their patents and premiums are mentioned, and they are right.

When we now look at the list of more or less solid and respectable helps which are in reach of the inventor and manufacturer, we see a whole system. Between the simple newspaper notice and the openly bestowed premium are hundreds of other ways to attract the attention of the public.

He who understands the whole art of advertising will always win, even if the article he sells is no better or of a worse kind than that of his competitor.

## CHAPTER XIX.

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### A GRAND SUCCESS.

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About twenty years ago there lived in Provence (France) a workman who liked to read very much. He possessed a library consisting mostly of old novels, which his master had given him. Because he loved them very much and hated to see them so dilapidated, he always thought of a binding and finally devised a self-binder. As it was very useful the pastor advised him to have it patented, which he did, as he had some money. But when he got the patent he did not have any money left to manufacture it. He went to his master who said, however, that the patent was a swindle. This was not very encouraging, but he went again to the pastor who told to put the following in the papers :

“ 1000 frs. are wanted for three years. High per cent. and great security given.”

Sure enough many people came, when he borrowed and commenced to manufacture. He employed a book-binder and with his help made a thousand of the self-binders. Then, as nobody bought them, he was obliged to send his help away. He took the

self-binders and went peddling trying to sell them, without luck. Then he thought of the advice of an old Jew whom he had met, to give his articles to a wholesale house for Article de Paris. He went there and offered them the thousand self-binders, but they would only keep them on sale and not buy them. He went from house to house with no better luck. At last he left them at one house and went home to work as before. He had made a contract with the firm that the net profit should be divided.

Not long did he stay on his farm. Already, after fourteen days, he received a letter containing 2000 francs and ordering many self-binders, also saying that they would pay cash. One order was quickly followed by another. He founded a book-binder shop, and later on a book bindery works with machine power. And out of this simple beginning, in a short time, arose one of the largest book-binding establishments in the world.



## CHAPTER XX.

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### GOOD ADVICE.

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The attentive reader of the foregoing will know the summary himself. We believe, however, that the advice which we intend to give here can not be given often enough to show the inventor, and especially him who has nothing to lose, on what a slippery pathway he is walking, as soon as he over-estimates himself and his invention, and does not know when to stop in his hunt for patents.

Inventions and patents are something like a game of hazard, only the public does not see so much of it. As by hazard playing not every body can prosper and keep on prospering, and if one does it is heralded into the world, we must not think of the many who go to their destruction at gambling tables; so it is with inventions. The few who have won respect and fortunes through them are countable, but those who through their patent and invention craze have nearly, if not entirely, destroyed themselves and their families, are countless.

I do not wish to warn people not to invent. I only want them not to patent carelessly, and ask to warn them against speculation-invention. Every one who seeks to improve and help science in any way

does nothing wrong as long as he does not get out of reasonable bounds. However, he who believes that he is a grand inventor and when he invents even the most invaluable thing and advertises it in every country, he is a systematic hazard player and ought to be stopped. I warn the small man, not to think his invention is the grandest on earth and worthy to be patented in every country. I also warn the rich inventor, who spends the national wealth in foreign lands because he patents his invention in every nation.

Money for which goods are bought in foreign lands is not wasted ; it does some if very little good ; but money which is spent on patents in foreign countries has no value to the nation at all. And how easy a patent gets void. As I once before mentioned, every foreign patent is declared void as soon as one of them is allowed to expire. In the same place it is mentioned that in some countries the patent must be manufactured after the expiration of a given length of time. Also, that sometimes a tax must be paid after the patent is granted or it is void. On account of these reasons not more than ten per cent. of all patents gain the age of five years, and not one per cent. live to mature age. Every inventor should well consider before he undertakes to apply for foreign patents, for they are too easily lost. Patents are not so easily taken care of as patentees and inventors at first suppose they are.

Where do those three rules work ?

In all countries except Germany the first one is enforced The second is in nearly every country ; also the third.

The inventor who, besides his American patent, has one in England, Belgium, Italy, Austria, France and Germany, if he now would let the English patent expire all the others except in Germany would be declared void.

Therefore try your patent first and find out whether it is really worth patenting in any other land. Then take only a few and in countries where they will be valuable. Find out what competent people think of it before you patent it.

Mostly there is no reason to apply too soon. Wait till you have one in your own country, and then if that sells good, try another. Only in very few cases and only with great inventions it is necessary to seek for all patents in quick succession. In other cases keep cool and never over-estimate.



## CHAPTER XXI.

### MODEL CONTRCTS.

#### No. I.

#### CONTRACT

between Mr. X (buyer) and Mr. Y (seller) in regard to the selling of Patent No. .... of ..... on .....

#### § 1.

Mr. Y. resigns with this his interest in sub No..... of ..... , given patent to Mr. X under the below mentioned conditions, and allows the circumscription of the patent on the patent roll to Mr. X.

#### § 2.

Mr. X pays Mr. Y, as payment for that under sub § 1 described patent:

1st. A sum of \$ ....., payable in ..... installments etc., the first installment payable immediately, the second on ..... etc.

2nd. During the continuance of this agreement, only till the end of the patent however, a commission of ..... per cent of net selling price of every sold patent apparatus (or of those amounts paid to Mr. X by a third party for the use of a patent treatment.)



The account will be settled every quarter (or half year ) The money then due to Mr. Y is to be paid at the latest, on .. ..... in cash.

For the control of the commission Mr. X will keep an account book, in which these things shall be entered. This book shall be at the disposal of Mr. Y, or his agent, every month, (or quarter.) Also, every patent article shall be marked with a continued number.

### § 3.

Mr. X is obliged, during the continuance of this contract, to do everything in his power to keep the patent going. Especially he shall be held to the payment of all the patent taxes punctually. If Mr. X should be careless and forget anything, through which carelessness the patent gets void, he shall pay Mr. Y a sum of \$ .....

Mr. Y binds himself to help Mr. X, without charge, with his advice, as far as the arrangement of the factory and the use of the patented article or the sustenance of the patent is concerned. Mr. Y furthermore binds himself to give any possible improvement, that he may make to Mr. X free of charge, and the latter is obliged to see that those said improvements are protected by a patent.

(Here can be added a subject on the making of construction drawings, if the inventor can make them.)

### § 4.

The sum named in § 2 of ..... per cent shall, from the beginning of the third (fourth) year, be \$ ..... (not too high a sum), and shall then rise to \$ .....

At the end of the year that the royalty does not reach this sum, Mr, X (buyer) may either give the contract, with all rights mentioned in § 3, back to Mr. Y (seller), without an indemnification, or he can raise the royalty to the said sum himself. Patent articles which Mr. X may have on hand or which are yet in manufacture, after the return of the patent to Mr. Y, may be finished and sold within the first three years, with the increase of 25 per cent. on the royalty, stated in § 2, on each article, (raised because patent tax is no more paid).

If the patent falls back to Mr. Y, he can do with it what he wants, and Mr. X is obliged to allow circumscription in case it is again sold.

#### § 5.

In case of quarrels both parties are free to bring the case before a court of arbitration, in which case both sides must choose each two arbitrators and these one foreman. Their decision must be taken, however; or the case can be laid before the court nearest to Mr. X's residence.

#### § 6.

This contract will be made in ..... copies, and the contracting parties divide the cost equally between them.

Witnesses :

.....

.....

No II.

ARTICLES OF AGREEMENT.

These articles of agreement made and entered into this ..... day of ..... A. D., 18..., by and between Mr. X (seller) and Mr. Y (purchaser), both of the city of ..... , Witness: Whereas, Mr. X is now the sole owner and proprietor of a patent and invention of a certain ..... , known and patented under the name of ..... and, Whereas Mr. Y is desirous to obtain exclusive right and privilege from the said Mr. X to manufacture and sell said ..... , known as the “.....” Now therefore this agreement Witnesses:

That Mr. X, for and in consideration of the premises hereinafter mentioned, does hereby agree to sell and set over unto Mr. Y the exclusive right and privilege to manufacture said ..... and the exclusive right and privilege to sell the same in the United States, and all foreign countries, dominions and states for the period of ..... years from the date hereof, reserving to himself during that period the ownership of said patent only.

The said Mr. Y, for and in consideration of the premises herein contained agrees to manufacture and sell said ... .. , known as the “ .....” during said period, and to use the utmost endeavor and vigilance in the manufacture and sale of the same, that his means will permit.

The said Mr. X, as and for his portion of the

capital stock, shall furnish the invention and any possible later invented improvements of said .. ..... , known as “ ..... ”; and the said Mr. Y shall furnish all the material, labor and capital required for the manufacture and sale of said ..... during the period above mentioned.

And it is further agreed and understood by and between the parties hereto, that all gains, profits and increase that shall come good or arise from or by means of the manufacture and sale of said ..... shall be divided between them in even and equal portions, each to receive one half of said profit and gains, and that all losses that shall happen in and by said manufacture and sale thereof, by ill commodities, bad debts or otherwise, shall be borne and paid by the said Mr. Y alone.

And it is agreed by and between the said parties, that there shall be had and kept at all times during the period above mentioned, just, perfect and true books of account, wherein shall be entered and set down all money by him received, paid or expended in and about the manufacture and sale of said ..... , as all goods, commodities and merchandise, by him or either of them bought, and all other matters and things whatsoever to the said business and management thereof in any wise belonging, which said books shall be used in common between said parties so that either of them may have access thereto without any hindrance or interruption of the other, and also, that the said Mr. Y, on the first day of each and every month during the continuance of the period aforesaid, shall yield, make and render to the said Mr. X, a true, just and perfect inventory

and account of all profits and increase by him made, and all things by him received, disbursed, done or suffered, and all losses by him sustained in the manufacture and sale as aforesaid, and at the time of rendering such account to-wit: On the first day of each month shall pay and deliver to the said Mr. X his just share of the profits made and received.

And it is further mutually agreed between the parties hereto, that in case of the death of the said Mr. X., the said Mr. Y. shall pay to the widow, heirs or representatives of the said Mr. X. from the time of the death of Mr. X. until the end of the period of ..... years, ..... per cent. of the gain and profits arising thenceforth from the sale and manufacture of the said ..... , and in case of the death of said Mr. Y. during the period aforesaid, all rights and privileges to the manufacture and sale of said ..... , herein vested in the said Mr. Y., shall revert to the said Mr. X.

And at the end of said period of ..... years the said Mr. Y. shall make a true, just and final account of all things relating to said manufacture and sale of the ..... , and in all things truly adjust and pay over to the said Mr. X. his share of the gains and profits as herein agreed.

And the said Mr. X. agrees that at the expiration of said term, or in case of the death of the said Mr. Y., or in case of the forfeiture by the said Mr. Y. of the rights and privileges herein granted to him by reason of any non-compliance with the agreement herein, he will buy of the said Mr. Y, his heirs, or representatives, all the material and stock remaining on hand belonging to and used in the manufacture

of said ....., and will pay therefor the cost price thereof.

It is further agreed that the said Mr. Y shall make due endeavor to purchase all necessary material at the cheapest prices obtainable, and that the said Mr. X have authority to purchase material for said manufacture of said ..... if he can obtain the same at lower prices than the said Mr. Y shall procure them, and that the said Mr. Y, before purchasing such material shall first obtain the consent of the said Mr. X.

In witness whereof the said parties hereto have set their hands and seals this ..... day of ... ..  
A. D. 18.....

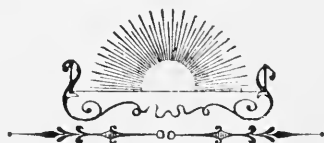
Mr. X.....

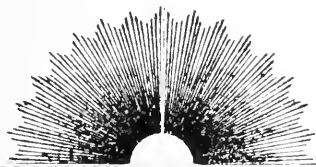
Mr. Y. ....

In presence of

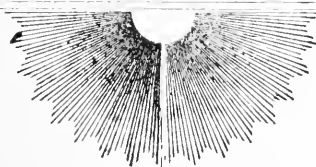
.....

.....





Part † Second.









## ADDRESSES.

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### AGENTS FOR MANUFACTURERS.

Montgomery, Ala : Warren & Holt  
Little Rock, Ark : Colburn E. L.  
Pine Pluff, Ark : Colburn E. L.  
Parker & Atkinson  
Denver, Colo : Johnson D. M. & Co  
Kelly J. O.  
Kimball & Handley  
Morse E. E.  
Robertson A.  
Shandal T. J.  
Thayer T. S.  
Wood J. H.  
Athens, Ga : Bloomfield R. L.  
Chicago, Ill : Abbott, J. H. 25 Washington st  
Brown W. C., 45 Lasalle  
Buss & Norton, 414 Phoenix building  
Caldwell Commission Co  
Childs H. K. & Co, 221 5th av  
Freeman A., 139 Lake  
Gates H. F. & Co, 221 5th av  
Gurney C. H. & Co, 247 Lake  
Gustroff A., 92 Lasalle  
Hawes A., 411 Phoenix building  
Hinkley S. P., 45 Lasalle  
Lewis G. F., 67 Washington  
Mihills M. A., 89 Lake  
Miles M. & Son, 138 Jackson  
Munger H. H., 142 Lake  
Reed G. W. & Co, 66 Wabash av  
Rich F. A., 23 S. Canal  
Smith F. W., 137 Lake  
Smith S. A., 23 S. Canal  
Stoner I., 19 Wabash av  
Straus M. & Bro, 19 Wabash av

Taylor J. & Co, 221 5th av  
 Washington L., 228 5th av  
 Wells B. W., 107 Dearborn  
 Williams G. F., 436 Rookery building  
 Wynne J., 239 Jackson  
 Ziesler I., 221 5th av  
 Des Moines, Iowa: Johnson D. M.  
 Louisville, Ky: Burrell F. R.  
     Coleman T. C.  
     Dick A. M.  
     Frankel H. U.  
     Gardner C. H.  
     Gividen B. T.  
     Gooch T. C. jr  
     Heelskamp J. G.  
     Huber & Allison  
     Moore S. T. & Co  
     Osborn, Symmes & Co  
     Pope S. S.  
     Powell J. D.  
     Rogers G. M.  
     Stucky H. F.  
 New Orleans, La: Anderson J. W., 129 Poydras  
     Blanchard J. G., 17 Tchoupitoulas  
     Bobb J. M., 55 Gravier  
     Bowling N. & Co, 40 Magazine  
     Burruss W. M., 80 Magazine  
     Curtis D. M., 17 Tchoupitoulas  
     Dennery T., 80 Customhouse  
     Devan, Urquhart & Co, 72 Camp  
     Evans Bros, 13 Perdido  
     Gould & Hotter, Bank place  
     Hampton J. T., 37 Natchez  
     Hoffman & Fatjo, 71 Tchoupitoulas  
     Howard G. W. & Co, 796 Magazine  
     McClure & Ridpath, 73 Poydras  
     Morphy A. E., 91 Magazine  
     Parker A. A., 23 Camp  
     Pring B. H., 188 Gravier  
     Seymour W. D., 53 Gravier  
     Thayer C. H. & Co, 54 Magazine  
     Tupper Bros, 8 Union  
     Walker F. & Co, 117 Tchoupitoulas  
     Wolfe U., 65 Magazine  
     Zeigler J. J., 57 Magazine  
 Baltimore, Md: Adler H. M., 304 W Baltimore  
     Blondheim S. S., 29 W Baltimore  
     Doyle C. J., 14 W German

Baltimore, Md :Loane E. D., 12 N. Charles  
 Marston L. W. & Co, Light c. German  
 Patterson G. F. & Co, 217 E Fayette  
 Ports J. W., 29 W Lombard  
 Ward S. M., 12 N Charles  
 Wolf M. W. & Co, 294 W German  
 Wysham G. F., 16 W Lombard  
 Detroit, Mich : Anspach & Simon, 147 Jefferson  
 Atkinson & Pennewell, 131 Woodward  
 Atterbury & Van Court, 82 Grisw'd  
 Berkery J. S., 21 Buhl blk  
 Bigelow & Gibbings, 153 Jefferson  
 Cohen D., 32 Walker blk  
 Cohen M., 32 Walker blk  
 Dickey J. A., 25 Congress W.  
 Emery R., 58 Griswold  
 Huyette & McKay, 333 Lafayette av  
 Kaeding W. C., 31 Monroe  
 Middlebrook H. & Co, 91 Jefferson  
 Ridgely R. B., 42 Woodbridge  
 Swift Mfr.'s Agency, 47 Rowland  
 Kansas City, Mo: Supply Am. Co, 416 Am. Bank bldg  
 Clark W. E. & Bro. 610 Walnut  
 DaCosta A. M., 126 N 6th  
 Davenport L. M. & Co 107 Ex bldg  
 Ganse T. D. 1416 W 11th  
 Keefer H. A., 26 Gibraltar bldg  
 Levy L. & J., 211 Alamo bldg  
 Meacham H. S. 1228 W 11th  
 Rice M., 605 Delaware  
 St. Louis, Mo: Allison J. W., 205 Pine  
 Alofs W. L., 707 Olive  
 Arnheiter C. J., 707 Olive  
 Bateson C. E. & Bro 825 Lucas av  
 Bernstein M., 414 Washington av  
 Cain P. R., 701 Washington av  
 Clarkson J. H., 506 Olive  
 Conroy Bro, 208 S 4th  
 Conway J. H., 608 N 4th  
 Dillenberg D., 500 N 2d  
 Farrar B. G. & Co, 623 N Main  
 Field W. B., 415 N 7th  
 Fife C. R. 114 N 4th  
 Forward C. J., 200 S Commercial  
 Frazer W. O., 203 N 3d  
 Gibson G. G., 310 N 7th  
 Goodwin J. P., 516 N 3d  
 Hazelton H., 619 N 4th

St. Louis, Mo : . . Holmes C. H. & Co, 520 Olive  
 Howe J. C., 24 N 3d  
 Jungk H., 113 Olive  
 Kory M., 618 Washington av  
 Ladd J. A., 203 N 2d  
 Levy D., 604 Washington av  
 McDonald R. E., 400 N 3d  
 Milburn W., 214 Pine  
 Pratt C. N., 624 Locust  
 Rashcoe H., 219 Olive  
 Schloss T. D., 220 Pine  
 Shryock W. P. & Son, 414 Wash'n av  
 Todd G. W., 608 N 4th  
 Waterman H. D. & S. J., 612 N 3d  
 Werner J. M., 509 N 6th  
 Werner M., 509 N 6th  
 West R. P., 413 Lucas av  
 White T. C., 421 Olive  
 Winslow W. A., 607 N 3d  
 Woodsworth & Co, 218 N 4th  
  
 Omaha, Neb:.....Mills, Rankin & Co, 315 Dodge  
 Phelps A. A. & Co, 10 Bushman blk  
 Ulrich & Stewart, 409 Paxton blk  
 Welshans W. J., 311 S 16th  
  
 New York City :.....Allen J. L. M., 22 Gold  
 Anthony H. M., 100 Reade  
 Aughiltree J. W., 56 Worth,  
 Baldwin F., 33 South,  
 Ball E. M. & Co, 49 Leonard  
 Barbey G. H., 17 Platt  
 Barton E. E., 27 South  
 Bateson, Armstrong & Dowd 116 Franklin  
 Beale & Co, 75 Worth  
 Beardsley F. W., 173 Greenwich  
 Bedell S. C., 108 Worth  
 Bedford & Kellum, 280 Broadway  
 Bishop A. J., 26 University Pl  
 Black Foster Co, (Ltd) 279 Church  
 Bradenburg C. W., 125 Chambers  
 Breinig G. M., 240 Pearl  
 Brewster F. C., 56 Worth  
 Briggs & Co, 318 Broadway  
 Burnhans R. O., 121 Leonard  
 Burling W. C., 216 Church  
 Burnham E. S., 84 W Broadway  
 Bush M. L., 7 Murray  
 Capen R. S., 795 Broadway

New York City : . . Carhart F., 113 Worth  
 Carpenter S. S., 51 Leonard  
 Chalmers H., 335 Broadway  
 Champlin C., 22 Platt  
 Chesebro & Garnsey, 264 Canal  
 Christensen Rudolph, 90 Chambers  
 Christie A., 28 White  
 Clark J. H., 401 Broadway  
 Clarke A. H., 84 w Broadway  
 Clark W. C., 280 Broadway  
 Coffey H. Y., 22 Thomas  
 Coles J. E. & Co 43 Jay  
 Conover C. E. Co, 101 Franklin  
 Cooper G., 98 Fulton  
 Croghan L. A., 107 Franklin  
 Culin C. G., 99 Franklin  
 Cumming & Becker, 275 Church  
 Damerel G., 18 Cortlandt  
 Dana R. H. & Co, 25 Beaver  
 Davie H. B.s, 115 Worth  
 Davison H. C., 229 Broadway  
 Day E. T., 192 Broadway  
 Day J. F., 125 Chambers  
 Dodman W., 107 Chambers  
 Domeyer F., 376 Canal  
 Donnelly D. A., 122 Duane  
 Dowd P. A. & Co, 239 Broadway  
 Eckmeyer & Co, 42 Beaver  
 Farquhar N. & Co, 24 State  
 Felch F. W., 51 Leonard  
 Fenton D. W., 163 Maiden lane  
 Ferguson A. S. & Co, 7 Park place  
 Ferguson J. B., 115 Worth  
 Field & Wagener, 115 Worth  
 Foerster W. & Co, 137 Duane  
 Foreign Trades Agency (Ltd), 128 Pearl  
 Francklyn R. & Co, 5 S William  
 Fraser C. A., 178 Broadway  
 Friedman J., 48 Murray  
 Froment Frank L., (Iron), 112 John  
 Fry G. W. 39 Barclay  
 Gay John F., 7 & 9 W Broadway  
 Geriken H. J., 115 Broadway  
 Gordon F. P., 140 Nassau  
 Gordon J. E., 39 Barclay  
 Graff A. M., 99 Franklin  
 Graffin A. J., 56 Worth  
 Graffin C. W., 56 Worth

New York City :.....Graham J. H. 113 Chambers  
 Greene J. R., 18 Cortlandt  
 Griswold M. W., 27 Beekman  
 Guild A., 56 Worth  
 Guthrie B. W., 1285 Broadway  
 Guyon C. F. & Co, 99 Reade  
 Haager J., 24 State  
 Haight A. S., 119 Franklin  
 Hall G. W., 115 Broadway  
 Hall J. D., 176 Broadway  
 Halpin J. J., 83 Chambers  
 Hammond H. D., 51 Leonard  
 Harrington A. W., 69 Duane  
 Harton T. A. E Co, 84 Franklin  
 Harwood W. B., 23 Murray  
 Haslam & Hanks, 99 Franklin  
 Haswell H., 99 Nassau  
 Hauschild & Esche 335 Broadway  
 Hawthorn & Co, 12 Courtlandt  
 Haydock J., 332 Broadway  
 Heller R. M., 216 Church  
 Hendrickson I. C., 237 Broadway  
 Heuacker J. E. 67 Barclay  
 Herzog T., 79 Leonard  
 Hicks Bros, 42 White  
 Hinman Bros, 359 Broadway  
 Hitchcock J. F., 297 Broadway  
 Höckmeyer Bros, 116 Franklin  
 Holden H., 513 Broadway  
 Holton E. C., 771 Broadway  
 Hughes G. F., 51 Leonard  
 Hurst J. N., 115 Worth  
 Hyde G. H., 712 Broadway  
 Hyer & Co, 335 Broadway  
 Hymes D., 118 Chambers  
 Jacoby C., 554 Broadway  
 Jenkins J. G., 8 Thomas  
 Jennings H. D., 34 Thomas  
 Judd F. F., 235 Greenwich  
 Kautsky K., 251 Broadway  
 Keep J. M., 183 Greenwich  
 Ketcham E., 103 Maiden lane  
 Klug F., 460 Broome  
 Kunz H., 122 Duane  
 Kutnow G., 658 Broadway  
 Lang O., 115 Worth  
 Lautenbach S., 323 Church  
 Lavendol E., 99 Franklin

New York City : . . Lebel & Fisk, 4 College pl.  
 Levene & Co, 53 Franklin  
 Libbey B. E., 117 Waverly pl  
 Lord J. B., 115 Worth  
 Lyons A., 36 Maiden lane  
 McClain & Talbot, 110 Worth  
 McCoy H. E., 56 Worth  
 McCreia J. E., 316 Church  
 McCreery W. A., 99 Franklin  
 McKean J., 86 Leonard  
 Macpherson I. R., 401 Broadway  
 Maduro S., 63 Murray  
 Maginnis W. H., 115 Worth  
 Mallory H. L., 107 Franklin  
 Mather J. W., 56 Worth  
 Meeks W. F. & Co, 9 Murray  
 Merritt G., 94 Liberty  
 Milliken T. K., 61 Leonard  
 Muehsam A., 13 w Broadway  
 Nock G. F., 176 Fulton  
 Norris W. K., 280 Broadway  
 Odell C. H., 15 Broad  
 Otensen C. G. C., 159 Chambers  
 Otto R. & Co, 102 Chambers  
 Phipps N. L., 56 Worth  
 Pittman W. R., 115 Worth  
 Price E. W., 17 Platt  
 Raborg H. M., 88 Leonard  
 Rintoul J., 173 Greenwich  
 Robbins R. A., 141 Chambers  
 Robinson B. F., 51 Leonard  
 Roch L. G., 867 Broadway  
 Roeder George, 319 Broadway  
 Rogers H. D. & Co, 75 Maiden lane  
 Roraback J. O., 335 Broadway  
 Ross A., 335 Broadway  
 Ryan T. J. & E., 343 Broadway  
 Sanders H., 51 Leonard  
 Schnarr & Delius, 115 Worth  
 Scott W., 157 Broadway  
 Sealey A. A., 20 Nassau  
 Senior T. H., 57 Beekman  
 Shernian J., 296 Broadway  
 Silver J. S., 13 Barclay  
 Simmons W. A. & Co, 13 Barclay  
 Skirving W. B., 37 Beaver  
 Smith A. A., 86 Reade  
 Smith C. A., 409 Broadway

New York City: . . . Smith G. V., 104 Reade  
 Smith & Scherr, 99 Franklin  
 Smyth J. D., 335 Broadway  
 Snyder A. H. & Son, 70 Worth  
 Thatcher E. C., 150 Nassau  
 Thayer F. P. & Son, 18 Warren  
 Thompson R., 105 Chambers  
 Thorpe J., 5 Beekman  
 Tinagero J. F. & Co, 12 Old st  
 Tollett E. A., 176 Broadway  
 Tommins & Adams, 116 Chambers  
 Umphred Bros & Ferguson, 2314 2d av  
 Unger H. J., 115 Worth  
 Valentine & Flagler, 99 Franklin  
 Vanderbilt and Reynolds, 7 Lispenard  
 Vorhauer W., 29 Murray  
 Wade O., 71 Broadway  
 Wakefield W. L., 77 Franklin  
 Wallach W., 231 Broadway  
 Webster C., 57 Leonard  
 Weir J. D. & Co, 78 Franklin  
 White T. C., 103 Chambers  
 Whitney A. R. & Co, 17 Broadway  
 Whitley & West, 323 Broadway  
 Whitney D. J., 47 Warren  
 Wilde C. E., 253 Church  
 Wiley M., 49 Lispenard  
 Willard W. A., 33 Chambers  
 Wilson & Bradbury, 95 Franklin  
 Winnant J. J., Jr. 32 Thomas  
 Wootton C. W., 99 Franklin  
 Wright S., Jr. 20 Lispenard  
 Zerfass C. E., 39 E 14th

Cincinnati, O:..... ..Chapin D. B., 4 w 2d  
 Cooke D. McK & Co, 49 w 2d  
 DeRuiter W. & Co, 15 w 2d  
 Durrell Bros, 25 w Pearl  
 Evans & Robertson, Chamber of Commerce building  
 Fullerton G. W. & Co, 8th c Sycamore  
 Goshorn A. O., 7 Hammond building  
 Hume & Beahr, 228 w 4th  
 Johnston Bros, 264 w 4th  
 Liebenstein L. K. & Co, 162 w 3d  
 Males H. W. & Co, 99 w 4th  
 Mendenhall D., 187 w 4th  
 Pollock & Co, 322 Main



Cincinnati, O: . . . Putnam, Hooker & Co, 52 w. 2d  
 Richardson H. M. & Co, 8 w. Pearl  
 Walter H. H., 107 w. 2d  
 Wessel, A. 53 w. 2d  
 White A. & Co, Pike's building  
 Cleveland, O: ..... Billow E. E. & Co., 158 Public square  
 Carlise M. W., 130 Water  
 Kennedy W. D. & Co, 122 Water  
 G. B. Johnson, 121 Superior  
 Patterson & Co, 45 Euclid av  
 George G. Wells, 89 St. Clair  
 Dayton, O: . . . . . Bates W. L.  
 Lima, O: . . . . . Moore Brothers  
 Philadelphia, Pa: . Aaron S. R., 610 Arch  
 Adams G., 1020 Chestnut  
 Berry H. A., 20 n. 7th  
 Bierce C. E., 1020 Chestnut  
 Brooks A. G., 619 Walnut  
 Brown T. H., 700 Arch  
 Bush C., (Iron), Drexel Bldg  
 Cake B. F., 69 N Front  
 Clayton T. H., 831 Arch  
 Clift & Wilcox, 1020 Chestnut  
 W. W. Commins, 1017 Chestnut  
 Crawford, W. K., 905 Market  
 Crowell C. S., 707 Market  
 DaCosta H. R., 833 Arch  
 Davis C. S., 114 S. 6th  
 DeCasseres Elias G. 222 Market  
 DeCosta H. R. 833 Arch  
 Dennis G. W., 15 S. 9th  
 Douglass C. C., 710 Sansom  
 Ennis C. H., 1020 Chestnut  
 Fawcett T., 35 Strawberry  
 Gay L. S., 64 N 4th  
 Gratz E., 236 Chestnut  
 Haverstick A., 700 Arch  
 Henry G. H., 236 Chestnut  
 Hinman C. C., 407 Walnut  
 Hofheimer M., 610 Arch  
 Hopkins & Small, 206 S. 5th  
 Jackson, Slaymaker & Co, 727 Market  
 Jenkins, W. R., 1020 Chestnut  
 Kyle J., 109 Front  
 Lamotte T. A. 415 Commerce  
 Levy A., 729 Market  
 Loomis C. H., 1020 Chestnut  
 Loomis K. H., 430 Walnut

Philadelphia, Pa: McDonnell, C. A., 905 Market  
 Markley, T. W., 15 S. 9th  
 Merrill, V., 149 N. 3rd  
 Middleton A. H., 24 N. Front  
 Miller W. H., 503 Arch  
 Mohr J. N., Bullitt Building  
 Newsome T., 41 Strawberry  
 Ottey E. H., 1002 Chestnut  
 Phillips F. R., 407 Walnut  
 Pollock A., 732 Arch  
 Raser, S. S., 512 Commerce  
 Reuben, S. R., 610 Arch  
 Sheetz & Stephen, Drexel Building  
 Silberman M., 831 Arch  
 Simpson, H., Jr., 833 Arch  
 Smethurst W. A., 7 Bank  
 Storer G. W., 149 N. 3d  
 Smith C. W. R., 55 S. 3d  
 Stern M., 1345 Arch  
 Swift J. S., 1020 Chestnut  
 Taylor W. G., 37 S. Front  
 Thomas, E. H., Bainbridge st. wharf  
 Tilton W. H., 1023 Market  
 Walker & Kepler, 108 S. 4th  
 Walnut T. H., 502 Market  
 Weatherly W. L., 214 Church  
 Wilcox H. A., 1020 Chestnut  
 Wilson S. W., 119 S. 4th  
 Yerkes S., 622 Chestnut  
 Pittsburg, Pa: ... Beggs H. C., 801 Liberty av  
 Black H. M. & Co., 821 Penn av  
 Camp H. E., 901 Liberty av  
 Carter, Macy & Co., Penn bldg  
 Colville W. W., 811 Hamilton bldg  
 Dalzell A. F., Penn bldg  
 Davis H. H., 99 Water  
 Davis E. & J., 115 Water  
 Deardorff I. L., 702 Penn bldg  
 De Noon Bros. & Ewing, 5 7th av  
 Forner W. F., 5 7th av  
 Gwen J. M., 59 9th  
 Kirby J. M., (dry goods, notions), 15 7th av  
 McLean A. C., 52 9th  
 Magnus J. W., 2 Jackson bldg  
 Messing & Co., 20 5th av  
 Overend J. W. (notions), 543 Wood  
 Price W. P., 137 1st av  
 Sellers F. & Co., 615 Penn bldg

Pittsburg, Pa :.....Stuart & Corse (dry goods, etc.), 36 6th  
 Swearingen C., 58 9th  
 Thirtle J., (boots & shoes), 533 Smithfield  
 Chattanooga, Tenn : Martendale & Acosta  
 Galveston, Tex :...Hennessey P. H. & Co  
 Hughes W. J. & Co  
 Milwaukee, Wis : Cohen Alex, 587 Jackson St

#### ° ARMS.

Los Angelos, Cal : Tufts-Lyons Arms Co  
 San Francisco, Cal : Jones, McCracken & Co  
 Denver, Col : .....Hilter & Reedman  
 Lower J. P. & Sons  
 Hartford, Conn : Colt's Pat. Fire Arms Mfg Co  
 The Billings & Spencer Co  
 The Gatling Gun Co  
 Meriden, Conn : Parker Bros  
 New Haven, Conn : N. D. Folsom & Co  
 Marlin Fire Arms Co  
 Strong Fire Arms Co  
 Winchester Repeating Arms Co  
 Norwich, Conn : Bacon Arms Co  
 Hopkins & Allen Mfg Co  
 Chicago, Ill :.....Grimm-Rudolf  
 Graff & Jordan  
 Chicago Gun & Cuttlery Co  
 Jenny & Graham Gun Co  
 New Orleans, La : H. & D. Folsom Arms Co  
 Boston, Mass :...John P. Lovell Arms Co  
 Worcester, Mass : Foreand & Wadsworth  
 Harrington and Richardson Arms Co  
 St. Louis, Mo :.....E. C. Meacham Arms Co  
 Omaha, Neb :.....The Collins Gun Co  
 Manchester, N. H : Killey & Wadleigh  
 Jersey City, N. J : Star Pistol Co  
 Buffalo, N. Y : ... Buffalo Arms Co  
 Cortland N. Y :...F. A. Bickford & Co  
 Ilion, N. Y :..... E. Remington & Sons  
 Ithaca, N. Y :.....Baker, McIntyre & Van Natta  
 New York City :...Alford & Berkele Co  
 Merwin, Hurlburt & Co  
 C. E. Overbaugh & Co  
 Pneum. Dynamite Gun Co  
 Wiebuck & Hilger  
 Rochester, N. Y : W. D. Chapman, Sons & Co  
 Syracuse, N. Y : Lefever Arms Co  
 Syracuse Forging & Gun Co  
 Cincinnati, O :...Brande Arms Co

Cincinnati, O :.....B. Kittridge Arms Co  
   Clark, Widdifield & Co  
 Cleveland, O : .....The Chamberlin Cartridge Co  
 Hummel's Wharf, Pa : Baum & Co  
 Nazareth, Pa : .....H. James & Sons  
 Philadelphia, Pa. : The Foehl & Weeks Fire Arms Mfg Co  
   E. K. Tryon, Jr. & Co  
 Milwaukee, Wis. : J. Meunier Gun Co

#### **BARBERS' AND DENTISTS' CHAIRS.**

Chicago, Ill:.....Hornung Mfg Co  
 St. Louis, Mo:.....Koken Barbers' Supply Co  
 New York City:...Klingler S., 30 S. 5th av  
   Schwaab Adam  
 Rochester, N. Y.:...Archer Mfg Co  
 Canton, O:.....Canton Dental & Surgical Chair Co  
 Cincinnati, O :...Berninghaus Eugene

#### **BICYCLES AND TRICYCLES.**

Hartford, Conn :...Weed Sewing Machine Co  
 Chicago, Ill:.....Pierre Geo. N., & Co  
   Pope Mfg Co  
   Western Wheel Works  
 Boston, Mass :.....Wm. Read & Sons  
 St. Louis, Mo :... St. Louis Wheel Co  
   Knight Cycle Co  
 Newark, N. J. :... H. B. Smith Machine Co  
 Philadelphia, Pa: Strong & Green Cycle Co  
   Sweeting Cycle Co

#### **BILLIARD TABLE MANUFACTURERS.**

San Francisco, Cal: Brunswicke Billiard Table Manf. Co  
 Chicago, Ill:.....The Brunswick, Balke Collender Co  
 Boston, Mass :.....Came J. E. & Co  
 Detroit, Mich:.....The Schulenburg Manfg Co  
 New York City....Griffith Wm. H. & Co  
 Cincinnati, O :.....National Billiard Manfg Co

#### **BITTERS MANUFACTURERS.**

San Francisco, Cal : Ruther & Bendixon  
   Sherwood & Sherwood  
 St. Louis, Mo :...Home Manfg Co  
 Louisville, Ky :...Green N. & Co  
 New York City.....Balfe & Co

#### **BLACKING MANUFACTURERS.**

Boston, Mass :.....Brown B. F. & Co  
   Cahill M. S. & Co

New York City.....Bixby S. M. & Co  
Philadelphia, Pa : Porpoisine Mnfg Co

#### **BOAT BUILDERS.**

Wilmington, Del : Bannar & Munn  
Drein T. & Son  
Chicago, Ill :.....Kane, Thomas & Son  
Detroit, Mich :.....Campan S.  
Jersey City, N. J : Hofmeyer C. G.  
Brooklyn, N. Y :...Ayers Sam  
New York City.....Glore Andrew & Son  
Hayes E. A.  
Peekskill, N. Y :...Osborn Wm. R.  
Troy, N. Y :.....Waters S. & Sons

#### **BOILER MAKERS.**

Sacramento, Cal : Sacramento Boiler and Iron Works  
San Francisco, Cal : Risdon Iron and Locomotive Works  
Denver, Col :.....Star Boiler and Sheet Iron Works  
Waterbury, Conn: Waterbury Steam Boiler Works  
Chicago, Ill :.....Hazleton Tripod Boiler Co  
Fort Wayne, Ind : Bass Foundry and Machine Works  
Baltimore, Md :...Poole Robt. & Son Co  
Worcester, Mass : Worcester Boiler Works  
Minneapolis, Minn : Minneapolis Boiler Co  
St Paul, Minn :...Northwestern Boiler Works  
St. Louis, Mo :.....Rohan Bros. Iron Works  
Albany, N. Y :.....Ferguson Boiler Co  
Buffalo, N. Y :.....Lake Erie Boiler Works  
Cincinnati, O :.....The Tudor Boiler Manfg Co  
Philadelphia, Pa : Harrison Safety Boiler Works  
Pittsburgh, Pa :...Lappan James & Co

#### **BOND AND BLANK CERTIFICATES.**

Boston, Mass :..... Heliotype Printing Co  
New York City... American Bank Note Co

#### **BRASS WORKS.**

San Francisco Cal : Roylaure I.  
Denver, Col :.....Denver Brass Works  
Waterbury, Conn: The Plume & Atwood Mfg Co  
Belleville, Ill :..... Jones Jam. Mfg Co  
Chicago, Ill :.....Chicago Brass Works  
Crane Bros. Mfg Co  
Louisville, Ky :... Eagle Brass Works  
Novelty Brass Foundry  
Boston, Mass :..... Edson Mfg Co  
Foster Wm. T. & Co

Detroit, Mich :.....Detroit Sheet Metal & Brass Works  
   Galvin Brass & Iron Works  
 St. Paul, Minn :...Northwestern Copper & Brass Works  
 St. Louis, Mo :.....Central Union Brass Co  
 Brooklyn, N. Y :.. Lewis & Fowler Mfg Co  
 New York City :...Palmenbergs I R, & Sons  
   Power Maurice J  
 Cincinnati, O :.....Lunkenheimer Brass Mfg Co  
 Cleveland, O ;..... American Bronze Works  
 Philadelphia, Pa :..Bureau Bros  
   Perkers Chas  
 Pittsburg, Pa :..... Carbon Bronze Co

#### **CAR BUILDERS.**

Oakland, Cal :..... Burnham, Standeford & Co  
 San Francisco, Cal : Carter Bros  
 Bridgeport, Conn ; Rolling Stock Co  
 Wilmington, Del : Delaware Car works  
 Jacksonville, Fla : Jacksonville Car Comp  
 Chicago, Ill :.....Arms' Palace Horse Car Co  
   Canda Cattle Car Co  
   Terre Haute Car Mfg Co  
   The U. St. Rolling Stock Co  
 Pullman, Ill :..... The Pullman Car Comp  
 Portland, Me :.....Portland Co  
 Detroit, Mich :.....Michigan Car Co  
 St. Louis, Mo :..... Brownell & Wright Car Co  
   St. Louis Car Comp  
 Brooklyn, N. Y :.. Lewis & Fowler Mfg Co  
 New York City :.. The Harlan & Hollingsworth Co  
   The Iron Car Comp  
   Stephenson John, Comp  
   Union Palace Car Co  
   Wagner Palace Car Co  
   Woodruff Sleeping & Parlor Car Co  
 Troy, N. Y :.....Gilbert Car Manfg Co  
 Philadelphia, Pa : The Allison Manfg Co

#### **CARRIAGE AND WAGON MANUFACTURERS.**

Montgomery, Ala : Montgomery Carriage Works  
 San Francisco, Cal :..Sanborn A. W., & Co  
   Whaff & Dudley  
 Denver, Col :.....Butler, Wyman & Atwood  
   The Robertson & Doll Carriage Co  
   Woeber Bro. Carriage Co  
 New Haven Conn :..Cruttenden & Co  
   Hooker Henry, & Co  
   New Haven Carriage Co

Chicago, Ill :..... Edwards H. J., & Sons  
                                   Staver H. C., Mfg Co  
                                   Weber Wagon Co  
 South Bend, Ind : Studebaker Bros Manfg Co  
 Davenport, Iowa : Lamp P. & Co  
 Topeka, Kansas : Walter J. W. & Son  
 Louisville, Ky :...Ruby Carriage Manfg Co  
 New Orleans, La : Garland & Kaler  
 Portland, Me :.....Martin Plennell & Co  
 Baltimore, Md :...Kunkel John N. & Co  
 Boston, Mass :.....Colman Moses & Son  
                                   French Fred. F. & Co  
                                   Hall James & Son  
                                   Nichols, D. P. & Co  
                                   Sargent Francis & Co  
 Detroit, Mich :.....Columbus Buggy Co  
 Minneapolis, Minn : Moline Milburn & Stoddard Co  
                                   Northwestern Impl. and Wagon Co  
                                   Smith Wagon and Implement Co  
 St. Paul, Minn : ..Northwestern Wagon and Carriane Co  
                                   St. Paul Carriage Co  
                                   St. Paul Park Carriage Co  
 St. Louis, Mo :.....Haydock Brothers  
                                   Moon Brothers  
                                   Schelp Wagon and Carriage Co  
 Omaha, Neb :.....Novelty Carriage Works  
 Newark, N. J :.....Colyer J., & Co  
                                   Kelly & Co  
                                   Qumby J. M., & Co  
                                   Allen & Smith  
 Albany, N. Y :.....Standard Wagon Co  
 Brooklyn, N. Y :..Bungarz Stage and Wagon Works  
 Buffalo, N. Y :.....Strasser Wagon Works  
 Newbury, N. Y :..Bazzoni L. J.  
 Few York City :..Babcock H. H., Co  
                                   Borrho Jacob  
                                   Bradley & Co  
                                   Demarest A. T., & Co  
                                   Lowdon & Rutherford  
                                   Fifth Wheel Co  
 Poughkeepsie, N. Y : Reed & Dorland  
 Rochester, N. Y :..Cunningham James, & Son  
 Syracuse, N. Y :..Whitney Wagon Works  
 Troy, N. Y :.....Troy Carriage Works  
 Durham, N. C :   Durham Carriage Works  
 Cincinnati, O :.....Enterprise Carriage Mfg Co  
                                   Favorite Carriage Co  
                                   Lippelmann Carriage Co

Cincinnati, O :.....Miller's Geo. C., & Sons  
                                   Overman Carriage Co  
 Cleveland, O :.....Cleveland & Brooklyn Carriage & Wagon  
                                   Works  
 Allegheny, Pa :... West E., & Sons  
 Philadelphia, Pa : Braithwait R. M., & Co  
                                   Caffrey Chas. S. Co  
                                   Hunt William, & Son  
                                   Rogers William D., Sons & Co  
                                   Union Hub, Spoke and Wheel Co  
 Pittsburg, Pa :.....Glesencamp L., & Son  
 Knoxville, Tenn :..Knoxville Buggy Works  
                                   Knoxville Carriage Factory  
 Nashville, Tenn :..Cherry, Morrow & Co  
 Dallas Tex :..... East Dallas Mfg Works  
 Salt Lake City, Utah :..People's Implement Co  
 Richmond, Va :... McDonough J., & Co  
 Milwaukee, Wis :..Brown T. H., & Co  
                                   Milwaukee Buggy Co  
 Racine, Wis :.....Fish Brothers  
                                   Racine Wagon and Carriage Co

#### CHEMICAL WORKS.

San Francisco, Cal : California Chemical Works  
                                   Pacific                   "                   "  
                                   San Francisco "                   "  
                                   Western Mineral Co  
 Denver, Colo :.....Colorado Chemical Works  
 Bridgeport, Conn : Fairfield Chemical Works  
 Glenbrook, Conn : The C. H. Phillips Co  
 Hartford, Conn : Beach & Co  
                                   Sisson T. & Co  
 Louisville, Ky :...Struss Chemical Works  
 Baltimore, Md :...Lazaretto Chemical Works  
                                   Miller H. S. & Co  
                                   Monumental Chemical Co  
 Boston, Mass :.....Egyptian Chemical Co  
                                   Enterprise Chemical Co  
 Detroit, Mich :...Parke Davis & Co  
 St. Louis, Mo :...Alff Chas. Chemical Works  
                                   Davy Chemical Works  
                                   Herf & Fredricks Chemical Works  
 Jersey City, N. J : Tartar Chemical Works  
 Newark, N. J :.....Hanson, Van Winkle & Co  
                                   King Chemical Works  
                                   Technical Chemical Works  
 Albany, N. Y :...Albany Chemical Works  
 New York City :..American Chemical Works



Atlantic Chemical Co  
 Borgenport Chemical Co  
 Crown Chemical Works  
 New York Organic Chemical Works  
 Passaic Chemical Works  
 Union Chemical Works  
 The Zucker & Levett Chemical Co  
 Cincinnati, O :..... Berghausen Chemical Co  
 Central Chemical and Manufacturing Co  
 The Merrell Chemical Co  
 Cleveland, O :..... Rosenwasser Laboratory  
 Standard Chemical Co  
 Chester, Pa :..... Geo. S. Coyne  
 Philadelphia, Pa : Pennsylvania Chemical Works  
 Providence, R. I. : Rumford Chemical Works  
 Richmond, Va :... Richmond Chemical Works

## ELECTRICAL INSTRUMENTS.

(See also Machines.)

Los Angeles, Cal : Los Angeles Electrical Works  
 Sacramento, Cal : Pacific Electrical Works  
 San Diego, Cal : San Diego Electrical Works  
 San Francisco, Cal : Cal. Electric Light Co  
 Cal. Electric Works  
 Electrical Supply Co  
 Hatteroth & Russ  
 Ansonia, Conn : . . The Electric Supply Co  
 Bridgeport, Conn : . New England Electric Supply Co  
 Star Electric Co  
 Hartford, Conn : . Billings & Spencer Co  
 Standard Electric Co  
 Waterhouse Electric & Mnfgr Co  
 Manchester, Conn : Mather Electric Co  
 Middleton, Conn : Schuyler Electric Co  
 New Haven, Conn : H. B. Cox Electric Co  
 Elm City Electric Co  
 G. H. Simmons  
 Torrington, Conn : Union Hardware Co  
 Waterbury, Conn : Connecticut Electric Co  
 Electr. Appliance Mfg. Co  
 Standard Electric Time Co  
 Woolworth & White Co  
 Windsor, Conn : . Eddy Electric Mfg. Co  
 Washington, D. C. : J. U. Burket  
 Washington, D. C. : J. H. Kuehling  
 G. C. Maynard  
 Royce & Marean

Atlanta, Ga : . . . Cole, Gentry & Co  
 Chicago, Ill : . . . American Electric Meter Co  
                             J. Annussen  
                             P. Atkinson  
                             Automat. Temp. Regulating Co  
                             F. Bain  
                             L. S. Baldwin & Co  
                             Belding Motor & Mfg. Co  
                             Bidwell Electric Rasha & Mfg. Co  
                             Central Electric Co  
                             Chicago Electric Service Co  
                             E. Chiles  
                             H. P. Comstock  
                             Cowl & Van Denburgh  
                             G. Cutter  
                             Daft Electric Co  
                             Darche Electric Co  
                             Electric Mfg. Co  
                             Electric Protection Supply Co  
                             Electric Construction Co  
                             The Electric Supply Co  
                             Electro-Optic Mfg. Co  
                             Faraday Carbon Co  
 Chicago, Ill : . . . Fowler & Co  
                             Franklin Electric Co  
                             J. W. Glass & Co  
                             E. E. Harbert & Co  
                             G. A. Harmount  
                             E. Hofer  
                             Ill. Angle Am. Storage Battery Co  
                             Knapp Electrical Works  
                             J. Lang & Co  
                             McIntosh Battery & Optical Co  
                             H. Newgard  
                             Nutting Electric Mfg. Co  
                             J. D. O'Neil  
                             The Owen Electr. Belt & Appliance Co  
                             Pumpelly Stor. Bat. & Electr. Motor Co  
                             Sanden Electric Co  
                             Sprague Electric Equipment Co  
                             Standard Underground Cable Co  
                             Western Electric Co  
 Rockford, Ill : . . . Rockford Electric Mfg. Co  
 Fort Wayne, Ind : . Star Iron Tower Co  
 Richmond, Ind : . Home Electric Appliance Co  
 Terre Haute, Ind : . Electrical Mfg. Co  
 Davenport, Iowa : . Hawkeye Electric Mfg. Co

Des Moines, Iowa : Hess Electrical Co  
                                     F. H. Waiting & Co  
 Dubuque, Iowa : . Dubuque Electric Works  
 Topeka, Kansas : . Kansas Electric Co  
 Louisville, Ky : . Standard Electric Co  
                                     Gaynor Electric Co  
                                     American Semaphore Co  
 Baltimore, Md : . . Automatic Switch Co  
                                     J. A. Barret Battery Co  
                                     Marr Construction Co  
                                     Maryland Electric Motor Co  
                                     The Pope Electric Co  
                                     Southern Electric Co  
 Attleboro, Mass : . Smith Electric Co  
 Boston, Mass : . . American Electric Register Co  
                                     American Magnetic Electric Co  
                                     Automatic Electric Service Co  
                                     Boston Electric Co  
                                     Campbell Electrical Supply Co  
                                     Connelly Electric Heat Regulator Co  
                                     Consolidated Electric Mfg. Co  
                                     Crosby Electric House Signal Co  
                                     C. & C. Electric Motor Co  
                                     Eastern Electric Cable Co  
 Boston, Mass : . . Electrical Accumulator Co  
                                     Electric Development & Mfg. Co  
                                     The Electric Gas Lighting Co  
                                     The Electric & Machine Co  
                                     Enos Electric System Co  
                                     Eureka Door & Call Bell Co  
                                     Gould-Tisdale Railway Signal Co  
                                     Gray's Dynamo-Electric Machine Co  
                                     Holtzer-Cabot Electric Co  
                                     Mansfield Electric Co  
                                     National Electric Service Co  
                                     Redding Electrical Co  
                                     Simple & Electrical Co  
                                     U. S. Electric Light & Battery Co  
                                     Ziegler Bros  
 Cambridgeport, Mass : Shaefer Electric Mfg. Co  
 Malden, Mass : . . B. S. Hale & Son  
 Taunton, Mass : . Taunton Electrical Supply Co  
 Detroit, Mich : . . Commercial Electric Co  
                                     Detroit Electrical Works  
                                     Detroit Motor Co  
                                     Electrical Construction Co  
                                     Michigan Electric Service Co

Detroit, Mich : . . Michigan Electric Works  
                                     Woodward Electrical Co  
 East Saginaw, Mich : Electrical Supply Co  
 Grand Rapids, Mich : Peninsular Electric Co  
 Kalamazoo, Mich : Electro Medical Battery Co  
 Minneapolis, Minn : Bell Electric Co  
                                     Minneapolis Electric & Construction Co  
 St. Paul, Minn : . . Acme Electric Co  
                                     Northern Electr. Construct. & Sup Co  
                                     Thompson-Houston Electric Co  
                                     Weston Electric Light Co  
 Kansas City, Mo : . Gate City Electric Co  
                                     Southwestern Electrical Supply Co  
 St. Joseph, Mo : . . St. Joseph Electrical Supply Co  
 St. Louis, Mo : . . Electric Supply Co  
                                     Fidelity Carbon Mfg. Co  
                                     St. Louis Electrical Co  
 Omaha, Nebr : . . Midland Electric Co  
                                     Nebraska Electric Co  
                                     L. W. Wolfe & Co  
 Manchester, N. H : Electrical Machine Co  
 Camden, N. J : . . Applegate Electric Floor Mat Mfg. Co  
 Albany, N. Y : . . Electric Mfg. Co  
                                     Hamilton Electric Works  
                                     Robinson Electric Works  
 Auburn, N. Y : . . Auburn Electric Supply Co  
 Brooklyn, N. Y : . Th C. H. Carter Co  
                                     Electron Mfg. Co  
                                     N. Y. & Brooklyn Electric Co  
 Buffalo, N. Y : . . Buffalo Electric Co  
                                     G. N. Brown & Co  
                                     T. & E. Dickinson  
                                     Valentine & Son  
 New York City : . American Electric Works  
                                     Arnon & Hochhauson Electric Co  
                                     Barr Electr. Mfg. Co  
                                     Abr. L. Bogart  
                                     J. H. Bunnell & Co  
                                     Complete Electric Construction Co  
                                     Electric Construction & Supply Co  
                                     Electric Power Controller Co  
                                     Electric Signal Mfg. Co  
                                     Empire City Electric Co  
                                     E. S. Greeley & Co  
                                     Hartford Dynamic Co  
                                     Herzog Teleseme Co  
                                     Jerome Kidder Mfg. Co

**New York City :** . New York Electric Supply Co  
Westinghouse Electric Co  
**Schenectady, N. Y :** Edison Machine Works  
**Syracuse, N. Y :** . . Electrical Mfg. Co  
**Troy, N. Y :** . . . Electric Mfg. Co  
**Cincinnati, Ohio :** . The Homann Model Works  
Standard Electrical Works  
**Cleveland, Ohio :** . The Cleveland Electrical Mfg. Co  
Electric Supply & Mfg Co  
Fletcher & Fletcher  
The Globe Carbon Co  
Miller Electric Co  
The National Carbon Co  
The Standard Carbon Co  
**Philadelphia, Pa :** . Cleverly Electrical Works  
Eddy Electric Mfg. Co  
The Electro Dynamic Co  
Grover Electric Co  
National Electric Co  
Novelty Electric Works  
Quaker City Electric Co  
**Pittsburg, Pa :** . . Electric Supply & Construction Co  
Empire Electric Carbon Co  
Keystone Construction Co  
Westinghouse Electric Co  
**Providence, R. I :** . American Electrical Works  
Russell Electrical Mfg. Co  
**Nashville, Tenn :** . Electric Fare Box Co  
**Milwaukee, Wis :** . Duerr & Rohn  
Johnson Electric Service Co

## ELEVATOR MANUFACTURERS.

San Francisco, Cal : Cahill & Hall  
A. J. McNirall & Co  
Bridgeport, Conn : Pacific Iron Works  
New Haven, Conn : F. C. Carmon Mfg. Co  
The Frisbee Co  
Atlanta, Ga : . . . A. B. See Mfg. Co  
Chicago, Ill : . . . Crane Elevator Co  
Ellithorpe Air Brake Co  
Hale Elevator Co  
Tuerk Hydraulic Power Co  
Louisville, Ky., . Ainslie, Cochran & Co  
Geiger & Fiske  
Grainger & Co  
Louisville Machine & Elevator Works  
Union Machine Co  
Baltimore, Md : . . Bartlett, Hayward & Co

Baltimore, Md : . . James Bates  
                             E. Frank & Son  
                             Snowden & Cowman  
 Boston, Mass : . . Elias Brewer  
                             L. S. Graves & Son  
                             Hawkins Machine Co  
                             Holmes & Blanchard  
                             Lowell Machine Shop  
                             Moore & Wyman  
 Holyoke, Mass : . Holyoke Machine Works  
 Detroit, Mich : . . Mich. Elevator & Engine Co  
 Kansas City, Mo : . The Cookson Iron Works  
                             Kansas City Elevator Mfg. Co  
 St. Louis, Mo : . . John S. Beggs & Co  
                             Miller & Saylor  
 Newark, N. J : . . Currier & Sons  
                             Skinner & Leary  
 Brooklyn, N. Y : . A. B. See Brooklyn  
 Buffalo, N. Y : . . Howard Iron Works  
 New York City : . The Ellithorpe Air Brake Co  
                             L. S. Graves & Sons  
                             Homan Bros. & Couch  
                             McGregor Mfg. Co  
                             Otis Brothers & Co  
 Syracuse, N. Y : . . E. W. Houser  
 Cincinnati, Ohio : The Jas. L. Haven Co  
                             C. G. Scott & Co  
                             Warner Elevator Mfg. Co  
 Cleveland, Ohio : The Cleveland Elevator Co  
 Toledo, Ohio : . . Smith & Haldeman Elevator Co  
 Philadelphia, Pa : Harrington, Edwinton & Co  
                             McCalvey Elevator Works  
                             Morse, Williams & Co  
                             Richards Elevator Works  
                             Stokes & Parish Elevator Co  
 Pittsburg, Pa : . . Marshall Bros  
                             Iron City Elevator & Mach. Works  
 Milwaukee, Wis : Kieckhefer Elevator Co

#### **FURNACE FACTORIES.**

Birmingham, Ala : Alice Furnace Co  
 Gadsden, Ala : . Coosa Furnace Co  
 Denver, Colo : . . Colorado Furnace Works  
 New Haven, Conn : The Raymond Furnace & Mfg. Co  
 Chicago, Ill : . . The Boynton Furnace Co  
                             Butman Furnace Co  
                             Magee Furnace Co  
                             Peace Furnace Co

Chicago, Ill : . . . Servoss Furnace Co  
 Boston, Mass : . . Boston Furnace Co  
                             Kohler Furnace & Steam Heat Co  
 New York City : . Earl B. Chace & Co  
                             J. L. Mott Iron Works  
                             National Stove Co  
                             Richardson & Boynton Co  
                             The Richardson & Morgan Co  
                             The Simonds Mfg. Co  
 Rochester, N. Y : Eureka Steam Heating Co  
 Syracuse, N. Y : . Howard Furnace Co  
 Cincinnati, Ohio : P. Kiefer, Jr., & Bros  
                             J. Rink & Son  
                             W. Miller Range & Furnace Co  
 Cleveland, Ohio : Beecher Furnace Co  
                             F. & H. Born  
                             W. A. Smith & Co  
 Columbus, Ohio : Columbus Warm Air Furnace Co  
                             Vogdsang Furnace Co  
 Dayton, Ohio : . . Phoenix Iron Works  
 Toledo, Ohio : . . Isaar D. Snead & Co  
 Philadelphia, Pa : The Start Peterson Co  
                             James P. Wood & Co  
 Pittsburg, Pa : . . Swindell & Smythe Co  
                             Swindell Wm. & Bros  
 Milwaukee Wis : . L. J. Mueller Furnace Co  
                             Schwab & Sercomb

#### **FURNITURE MANUFACTURERS.**

San Francisco Cal : West Coast Furniture Co  
                             Wolf Braas & Valentin  
 Denver Colo : . . Cooper Hagus Furniture Co  
 Bridgeport Conn : Furniture Mnfg Co  
                             Lieberum Bro  
 Hartford Conn : . The Hartford Furniture Co  
 New Haven Conn : The New Haven Rattan Co  
 Chicago Ill : . . . American Desk & Seating Co  
                             Bruschke Furniture Co  
                             Chicago Iron Bedstead Co  
                             Chicago Parlor Suit Co  
                             Crocker Chair Co  
                             Halvorson Furniture Co  
                             Hildreth Furniture Co  
                             National School Furnishing Co  
                             W. D Snyder Furniture Co  
 Louisville Ky : . Kentucky Furniture Mnfg Co  
                             Louisville Mnfg Co  
 Portland Me : . . N. J. Hilln

Baltimore Md: . Camden Furniture Co  
                                     The P. Hiss Mnfg Co  
                                     Maryland Furniture Co  
 Boston Mass: . . Bardwell Anderson & Co  
                                     Daniels Badger & Co  
                                     Derby & Kilmer Desk Co  
                                     Dorchester Furniture Co  
                                     Fairfield Furniture Co  
                                     New England Furniture Co  
                                     B. C. Noyes & Co  
                                     Quigley Furniture Co  
                                     George F. Roach & Co  
 Grand Rapids, Mich: Winchester Furniture Co  
                                     Berkey & Gay Furniture Co  
                                     Grand Rapids Chair Co  
                                     McCord & Bradfield Furniture Co  
                                     Phoenix Furniture Co  
 St. Louis, Mo: . . Burrell Comstock & Co  
                                     J. H. Conrades Chair Co  
                                     Missouri Furniture Co  
                                     Jos. Peters Furniture Co  
                                     St. Louis Furn. Workers Association  
                                     Western Furniture Co  
 Albany N. Y: . . W. A. Choate & Co  
 Brooklyn N. Y: . Brooklyn Furniture Co  
 Buffalo, N. Y: . . Buffalo Parlor Furniture Co  
                                     Morgan Furniture Co  
                                     Tift Furniture Co  
 New York City: . Berkey & Gay Furniture Co  
                                     B. M. Cowperthwait & Co  
                                     Geo. Flint Co  
                                     The Hale & Kilbun Mfg Co  
                                     Herter Bros  
                                     Hoskins & Sewell  
                                     Knapp Sheppard & Co  
                                     J. & J. Kohn  
                                     J. W. Mason & Co  
                                     New York Brass Furniture Co  
                                     The New York Furniture Co  
                                     Pottier Stymus & Co  
                                     W. Schwarzwald & Co  
                                     Tiffany J. B. & Co  
 Syracuse N. Y: . Syracuse Cab Co  
 Cincinnati O: . . The Alms Mnfg Co  
                                     The Ballman Hugenberg Co  
                                     Central Furniture Association  
                                     Cincinnati Bedstead Co  
                                     Cincinnati Chair Co



Cincinnati, O : . . Front Street Furniture Co  
                               Liberty Furniture Co  
                               Royal Parlor Furniture Co  
 Cleveland O : . . Cleveland Furniture Co  
                               National Furniture Co  
 Toledo O : . . . . The Schauss Mnfg  
 Philadelphia Pa : The Hale Kilburn Mnfg Co  
                               A. Lincoln & Son  
                               Williamsport Furniture Mnfg Co  
 Pittsburg Pa : . . Dauler Close & Johns  
 Nashville Tenn : . Edgefield & Nashville Mnfg Co  
 Milwaukee Wis : Farrington Poplar Furniture Co  
                               Northwest Furniture Co  
                               Otto. J. Schoenleber  
                               A. F. Tanner Furniture Co  
                               W. S. Seaman Co  
                               Cream City Furniture Co

#### GAS AND OIL FACTORIES.

San Diego Cal : . San Diego Trading Co  
 San Francisco Cal : Am Pat Gas Range & Liq. Fuel Co  
                               T. Day & Co  
 Chicago Ill : . . . Adams & Westlake Co  
                               American Meter Co  
                               Chicago Gas Stove Co  
                               The Gas Consumer's Protect. Co  
                               The Goodwin Gas Stove and Meter Co  
                               George Harris  
                               Hess Stove Works  
                               G. F. Higgin Manufacturing Co  
                               Maryland Meter and Manufacturing Co  
                               U. S. Oil and Gas Stove Co  
 Baltimore, Md : . Collins Stove Co  
                               C. Y. Davidson & Co  
                               P. Kries & Co  
                               W. E. Wood & Co  
 Boston, Mass : . . Barstow Stove Co  
                               Burrows Manufacturing Co  
                               Champion Gas Heater Co  
                               Dinsmore Manufacturing Co  
                               Florence Machine Co  
                               Generating Gas Stove Co  
                               Maryland Meter and Manufacturing Co  
                               Monitor Oil Stove Co  
                               H. A. Norton  
                               W. F. Shaw  
                               Waldo Brothers  
                               C. W. Wheelock & Co

Florence, Mass.: Florence Machine Co  
 Gardner, Mass.: American Oil Stove Co  
 Springfield, Mass.: J. L. Griswold  
 Worcester, Mass.: W. H. Thurston  
 Minneapolis, Minn.: Eureka Kerosene and Gas Heater Co  
 St. Paul, Minn.: Minnesota Machine Co  
                                     R. Seeger  
 St. Louis, Mo.: G. Beck & Co  
                                     Quick Meal Stove Co  
                                     St. Louis Gasoline Stove Mfg Co  
                                     Twin Burner Stove Co  
                                     Whorf Gas Stove Co  
 Brooklyn, N. Y.: Adams & Westlake Co  
 New York City: American Gas Pressure Regal. Co  
                                     American Meter Co  
                                     R. E. Dietz Co  
                                     Goodwin Gas Stove and Meter Co  
                                     Sheldon Manufacturing Co  
                                     Union Gas and Oil Stove Co  
 Cincinnati, O.: American Meter Co  
                                     F. Dieckman  
                                     Werner, Dodd & Co  
                                     Gas Illuminating Co  
 Cleveland, O.: Daugler Stove Manufacturing Co  
                                     Ohio Gas Heating and Dryer Co  
 Cleveland, O.: Van Wie Gas Stove Co  
 Toledo, O.: R. G. Bacon Co  
 Philadelphia, Pa.: Bell & Jones  
                                     The Goodwin Gas Stove and Meter Co  
                                     W. S. Lieber  
                                     H. A. Willes  
 Providence, R. I.: Gas Retort Stove Co  
                                     A. W. Faichild  
                                     Providence Vapor and Oil Stove Co  
 Milwaukee, Wis.: Brand Co The  
                                     Milwaukee Gas Heating Co

#### **HARDWARE, CUTLERY, SPRINGS, ETC.**

Berlin, Conn.: Peck, Stow & Wilcox Co  
 Birmingham, Conn.: The Birmingham Plow Mfg Co  
 Bridgeport, Conn.: E. S. Hotchkiss  
                                     The Smith & Egge Manufacturing Co  
 Collinsville, Conn.: The Collins Co  
 Hartford, Conn.: The Charles Parker Co  
 West Winsted, Conn.: T. C. Richard's Hardware Co  
 Chicago, Ill.: Buffalo Specialty Manufacturing Co  
                                     Capitol Manufacturing Co  
                                     Reading Hardware Co

Dubuque, Iowa: Schrieber & Couchar Manufacturing Co  
 Bridgeport, Conn: Bridgeport Spring Co  
                     Spring Perch Co  
                     The Fairist Steel Co  
 Waterbury, Conn: The Henry Spring Co  
 Chicago, Ill: .... Chicago Tire and Spring Co  
                     The Rocker Spring Co  
 Boston, Mass: ... The Boston Car Spring Co  
 St. Louis, Mo: .. St. Louis Spring Co  
 Cincinnati, O: ... The Cincinnati Spring Co  
 New York City: National Car Spring Co  
 Pittsburg, Pa: .... The A. French Spring Co

### **IRON WORKS AND FOUNDERS.**

Anniston, Ala... Murray & Stevenson  
                     Noble Bros & Co  
 Barton, Ala: .... W. H. Cherry & Co  
 Birmingham, Ala., Aiken & Leighton  
                     Beggs & Bro  
                     Birmingham Iron and Machine works  
                     De Bardelaben & Underwood  
                     Iron City Foundry and Machine Works  
                     Linn Iron Works  
                     Williamson Iron Co  
 Calera, Ala: .... Calera Iron Works  
 Gadsden, Ala ... Gadsden Foundry and Machine Works  
 Helena, Ala: .... Central Iron Works  
 Montgomery, Ala., Montgomery Iron works  
 Opelika, Ala: .... Phoenix Iron Works  
 Selma, Ala: .... Union Iron Works Co  
 Shelby Iron Works. Ala., Shelby Iron Co  
 Stonewall, Ala.. Stonewall Iron Works  
 Tuscaloosa, Ala. Tuscaloosa Foundry Mfg Co  
 Little Rock, Ark. Rose City Iron Works  
 Texarkana, Ark. J. C. Weed & Co  
 Greenville, Cal.. Anderson & Lawrence  
 Los Angeles, Cal. Baker Iron Works  
                     Columbia Iron Works  
                     Conklin Iron Works  
                     Union Iron Works  
 Sacramento, Cal. Sacramento Foundry  
 San Diego, Cal.. Standard Iron Works  
 San Francisco, Cal., American Machine and Model Works  
                     Architectural Iron Works  
                     Bay City Iron Works  
                     California Machine Works  
                     W. T. Garrett & Co  
                     Industrial Iron Works

Sacramento, Cal. Main Street Iron Works  
                     Marine Iron Works  
                     Marshutz & Cantrell  
                     Nolte & Walsh  
                     G. H. Mixer  
                     Rankin, Brayton & Co  
                     Rix & Firth  
                     Risdon Iron and Locomotive Works  
                     Union Iron Works  
 Stockton, Cal. . . .Globe Foundry and Machine Works  
                     Matteson & Williamson  
 Denver, Colo . . .Colorado Iron Works  
                     Western Foundry  
 Fort Collins, Col. Foundry and Machine Co  
 Ansonia, Conn. . .Farrell Foundry and Machine Co  
 Birmingham, Conn., Birmingham Iron Foundry  
 Brantford, Conn. Malleable Iron Fittings Co  
 Bridgeport, Conn. Bridgeport Malleable Iron Co  
                     The Eaton, Cole & Burnham Co  
                     The New Home Manufacturing Co  
 Hartford, Conn. .The Pratt & Whitney Co  
 Huntsville, Conn. Lyman Hunt Iron Co  
 Meriden, Conn. . .Bradley & Hubbard Manufacturing Co  
                     Breckenridge Manufacturing Co  
 Meriden, Conn. . .Parker & Whipple Co  
 Middletown, Conn., W. Douglas  
 Mystic River, Conn. . Standard Machine Co  
 New Britain, Conn., The Vulcan Iron Works  
                     Union Manufacturing Co  
 New Haven, Conn., The G. F. Warner Manufacturing Co  
                     The McLagon Foundry Co  
 New London, Conn., Albertson & Douglass Machine Co  
                     The Brown Cotton Gin Co  
                     The Hopson & Chapin Manufacturing Co  
 Norwalk, Conn. .The Simonds Manufacturing Co  
                     Lockwood Manufacturing Co  
 Norwich, Conn. . .C. B. Rogers & Son  
 Putman, Conn. . .Putman Foundry and Mach. Corporation.  
 Stanford, Conn. .Stanford Foundry Co  
 Stonington, Conn., Atwood Machine Co  
 Wallingford, Conn. . Judd Manufacturing Co  
 Waterbury, Conn. Waterbury Farrel Foundry and Mach Co  
 Winsted, Conn. . Winsted Foundry and Machine Co  
 Sioux Falls, Dak. Sioux Falls Foundry and Machine Co  
 Newport, Del . . .Marshall Iron Co  
 Wilmington, Del. Phoenix Iron Foundry  
 Washington, D. C., Potomac Iron Works  
 Orlando, Fla . . .South Florida Foundry and Machine Co

Athens, Ga . . . . Athens Foundry and Machine Works  
 Atlanta, Ga . . . . Van Winkle Gin and Machine Co  
                             Winship Machine Co  
 Augusta, Ga . . . . Pendleton Foundry and Machine Co  
 Columbus, Ga . . . . Columbus Iron Works  
 Griffin, Ga . . . . Griffin Foundry and Machine Works  
 Marietta, Ga. . . . Phoenix Foundry and Machine Works  
 Rome, Ga . . . . Rome Foundry and Machine Works  
 Savannah, Ga . . . . Kehoe Iron Works  
 Belleville, Ill . . . . City Foundry and Machine Works  
 Chicago, Ill . . . . Aetna Iron Works  
                             Aetna Iron and Steel Co  
                             Aetna Iron and Steel Works  
                             Ajax Forge Co  
                             J. H. Bass  
                             H. J. Berry & Son  
                             A. Balter & Son  
                             Bonton Foundry Co  
                             Brown Brothers Manufacturing Co  
                             M. C. Bullock Manufacturing Co  
                             Calumet Foundry Co  
                             Ohio Forge and Bolt Co  
                             Dearborn Foundry Co  
                             Eagle Foundry Co  
                             Eclipse Manufacturing Co  
                             Eddy Foundry Co  
                             Erie City Iron Works  
                             Excelsior Iron Works  
                             John Featherstons' Sons  
                             Gates' Iron Works  
                             Griffin Wheel and Foundry Co  
                             Hercules' Iron Works  
                             Illinois Iron Works  
                             Illinois Malleable Iron Co  
                             Illinois Steel Co  
                             Industrial Iron Works  
                             Jefferson Foundry Co  
                             The King & Andrew Co  
                             Kurtz Bros & Buhrer  
                             Marinette Iron Works Co  
                             Michigan Street Iron Foundry  
                             The J. L. Mott Iron Works  
                             A. Plamondon Manufacturing Co  
                             Soper Foundry Co  
                             South Halstead Street Iron Works  
                             The Sæad & Co Iron Works  
                             Union Foundry Works  
                             Vierling, McDowell & Co

Chicago, Ill. .... C. H. Woodruff & Co  
 Decatur, Ill. .... Union Iron Works  
 Geneva, Ill. .... The W. H. Howell Co  
 Joliet, Ill. .... The Joliet Iron and Brass Works  
 Lake View, Ill. .... Illinois Malleable Iron Works  
 Moline, Ill. .... Moline Malleable Iron Co  
                                 Union Malleable Iron Works  
 Rock Falls, Ill. .... Keystone Manufacturing Co  
 Rockford, Ill. .... Union Foundry and Machine Co  
 Springfield, Ill. .... Aetna Foundry and Machine Shop  
 Anderson, Ind. .... Anderson Foundry and Machine Works  
 Auburn, Ind. .... Auburn Foundry and Machine Shop  
 Brazil, Ind. .... Brazil Foundry and Machine Co  
 Crown Point, Ind. .... Aetna Iron and Steel Works  
 Decatur, Ind. .... Eagle Manufacturing Co  
 Elkhardt Ind. .... Elkhardt Iron Works  
 Fort Wayne, Ind. .... Bass Foundry and Machine Works  
 Greencastle, Ind. .... Greencastle Foundry and Machine Co  
 Huntington, Ind. .... Huntington Foundry and Machine Works  
 Indianapolis, Ind. .... Eagle Machine Works  
                                 Enterprise Foundry Co  
                                 Indianapolis Foundry Co  
                                 Indianapolis Mfg and Supply Co  
 Madison, Ind. .... Madison Machine Co  
 Mentone, Ind. .... Mentone Machine and Novelty works  
 New Albany, Ind. .... Chas. Hegewald & Co  
 Newcastle, Ind. .... Newcastle Iron works  
 Richmond, Ind. .... Robinson Machine works  
 Terre Haut, Ind. .... Phoenix Foundry and Machine works  
 Burlington, Ia. .... Murray Iron works Co  
 Cedar Rapids, Ia. .... Cedar Rapids Foundry and Machine Co  
 Chariton, Ia. .... Chariton Iron works  
 Council Bluffs, Ia. .... Council Bluffs Iron works  
                                 Union Iron works  
 Davenport, Ia. .... Davenport Foundry and Machine Co  
 Des Moines, Ia. .... Des Moines Steam Boiler and Iron wk's  
 Dubuque, Ia. .... Iowa Iron works Co  
                                 Key City Iron works  
                                 Langworthy-Adams Iron works  
                                 Novelty Iron works  
 Keokuk, Ia. .... Andrus, Loeffler & Co  
                                 Excelsior Sheet Metal works  
 Le Mars, Ia. .... Le Mars Foundry and Machine Shop  
 Sioux City, Ia. .... Sioux City Foundry and Machine works  
 Storm Lake, Ia. .... Storm Lake Foundry and Machine wk's  
 Chetopa, Kan. .... Co-operative Novelty Iron works  
 Concordia, Kan. .... Concordia Foundry works

Enterprise, Kan. J. B. Ersham Machine Co  
 Fort Scott, Kan. Fort Scott Foundry and Machine works  
 Girard, Kan. . . . Girard Foundry, Machine and Stove Co  
 Kansas City, Kan. Armourdale Foundry Co  
                     Consal Iron works Co  
                     Industrial Iron works  
                     Union Iron works  
 McPherson, Kan. McPherson Foundry and Machine Shops  
 Mound City, Kan. Mound City Manufacturing Co  
 Ottawa, Kan. . . . Novelty Iron works  
                     Ottawa Foundry Co  
 Parson, Kan. . . . Parsons' Foundry and Novelty works  
 Topeka, Kan. . . . Capital Iron works  
 Ashland, Ky. . . . Ashland Foundry and Machine Shop  
                     Norton Iron works  
 Louisville, Ky. . . Ainslie, Cochran & Co  
                     B. F. Avery & Sons  
                     Drummond Manuf'g Co  
                     Fischer-Leaf Co  
                     Grainger & Co  
                     Louisville Machine and Elevator works  
                     The Snead & Co Iron works  
 Mt. Sterling, Ky. Mt. Sterling Iron Foundry and Mach. Co  
 New Orleans, La. Whitney Iron works Co  
 Bangor, Me. . . . Bangor Foundry and Machine Co  
 Belfast, Me. . . . Belfast Machine works  
 Bridgeton, Me. . . Bridgeton Machine Co  
 Foxcroft, Me. . . . Foxcroft Iron Foundry and Machine Co  
 Westbrook, Me. . . Westbrook Foundry Co  
 Baltimore, Md. . . Baltimore Smelting works  
                     Bartlett, Hayward & Co  
                     James Bates  
                     Central Iron Foundry  
                     H. Ellicott. H. William & Sons  
                     Robt. Poole & Son Co  
                     Isaac A. Sheppard & Co  
                     Snowden & Cowman  
 Adams, Mass. . . . Allen Iron works  
 Ayer, Mass. . . . Doherty Machine Co  
 Boston, Mass. . . . Central Iron Foundry  
                     Chelmsford Foundry Co  
                     Fulton Iron Foundry Co  
                     Highland Foundry Co  
                     Howard Iron Foundry  
                     Mechanics' Iron Foundry Co  
                     G. W. Smith Iron Co  
                     Taunton Iron works Co  
                     Tremont Foundry and Machine Co

Boston, Mass....The Wainwright Mf'g Co of Mass  
                                     Wolaston Foundry Co  
 B'dgewater, Mass.Bridgewater Iron Co  
 Canton, Mass....Kinsley Iron and Machine Co  
 Carver, Mass....Ellis Foundry Co  
 Chelsea, Mass....New York Manufacturing Co  
 Chicopee, Mass...Ames Manufacturing Co  
 Fall River, Mass.Kilburn, Lincoln & Co  
 Fitchburg, Mass.Simons Rolling Machine Co  
 Foxboro, Mass....Foxboro Foundry and Machine Co  
 Greenfield, Mass.Wiley & Russell Manufacturing Co  
 Haverhill, Mass..Haverhill Iron Works  
 Lynn, Mass.....Aetna Iron Foundry  
 Mansfield, Mass..Central Iron Foundry  
 New Bedf'd, Mass.New Bedford Iron Foundry  
 N'h Adams, Mass.James Hunter & Son  
 Orange, Mass....Chase Turbine Manufacturing Co  
 Salem, Mass....Salem Foundry and Machine Shop  
 Springfield, Mass.Hawkins Iron works  
 Worcester, Mass.Arcade Malleable Iron Co.  
                                     Worcester Malleable Iron Co  
  
 Alpena, Mich....Alpena Industrial works  
 Battle Cr'k, Mich.Battle Creek Machine Co  
 Detroit, Mich . . .Detroit Bridge and Iron works  
                                     Dry Dock Engine works  
                                     Eagle Iron works  
                                     Enterprise Machine works  
                                     Frontier Iron and Brass works  
                                     Fulton Iron and Engine works  
                                     Murphy Iron works  
                                     Russell Wheel and Foundry Co  
  
 G'd Rapids, Mich.Fox Machine Co  
                                     Grand Rapids Iron works.  
                                     F. Hartman & Co  
                                     Michigan Iron works  
                                     Valley City Iron works  
                                     Vulcan Iron works  
  
 Hastings, Mich..Hastings Engine and Iron works  
 Jackson, Mich...Jackson Foundry and Machine Co  
 Kalamazoo, Mich.C. H. Bird & Co  
 Lansing, Mich...Lansing Iron and Engine works  
 Ludington, Mich.Industrial Iron works  
                                     Ludington Iron works  
  
 Manistee, Mich..Manistee Iron Works Co  
 Marquette, Mich.Lakeside Iron works  
 Menominee, Mich.Menominee Iron works  
 Montague, Mich.Montague Iron works



Muskegon, Mich. Lake Side Iron Co  
 Newberry, Mich. Vulcane Furnace Co  
 Owosso, Mich. . . . Owosso Iron works  
 P't Huron, Mich. Phoenix Iron works  
 Duluth, Minn. . . . Nautcue Iron works  
    Phoenix Iron works  
 Minneapolis, Minn. Crown Iron Works Co  
    Herzog Manufacturing Co  
    Lockwood, Upton & Co  
    Minneapolis Foundry Co  
 St. Paul, Minn. . . Amer'n Manufacturing Co  
    Eagle Iron works  
    Globe Iron works  
    St. Paul Foundry  
 Winona, Minn. . . Novelty Iron works  
 Jackson, Miss. . . . River Foundry and Agricultural works  
 Carthage, Mo. . . . Carthage Foundry and Machine Co  
 Kansas, Mo. . . . Armourdale Foundry Co  
    Central Iron works  
    Industrial Iron works  
    Kansas City Foundry and Machine Co  
    Kaw Valley Iron Works Co  
    The Keystone Iron Works Co  
    Lloyd Foundry and Machine works  
 St. Louis, Mo. . . . Gust. V. Brecht  
    Christopher & Simpson  
    Excelsior Foundry and Plating Works  
    Missouri Malleable Iron Co  
    Novelty Foundry and Mfg Co  
    Scherpe & Koen Co  
    South St Louis Foundry Co  
    Standard Foundry Co  
    Union Iron and Foundry Co  
 Butte City, Mont : Cameron & Aiken  
 Helena, Mont : . . . . Helena Iron Works  
 Omaha, Nebr : . . . . Davis & Cowgill Iron Works  
 Portsmouth, N. H : Portsmouth Machine Works  
 Claremont, N. H : . . Sullivan Machine Co  
 Exeter, N. H : . . . . Exeter Iron Foundry  
    Exeter Machine Works  
 Keene, N. H : . . . . Humphrey Machine Co  
 Lake Village, N. H : Cole Mfg Co  
 Nashua, N. H : . . . . Nashua Lock Co  
 Arlington, N. J : . . . Beckett Foundry and Machine Co  
 Jersey City, N. J : . . J. C. Wheel Foundry and Mach. Wks  
 Mount Holly, N. J : T. C. Alcott & Son  
 Newark, N. J : . . . . Cyrus Currier & Sons  
    Essex Iron Works

Newark, N. J :.....Franklin Iron Works  
 Ocean City, N. J :..Lake Mfg Co  
 Patterson, N. J :.....The Watson Machine Co  
                                   Union Foundry and Machine Works  
 Trenton, N. J :.....Will H. Baker  
                                   The Phoenix Iron Co  
                                   Union Iron Works  
 Albuquerque, N.M: Albuq. Foundry and Machine Co  
 Albany, N. Y :.....J. McKinney & Son  
 Brooklyn, N. Y: ...Bell and Type Foundry Co  
                                   Brooklyn City Iron Works  
                                   The Continental Iron Works  
                                   Fulton Iron Works  
                                   Healey Iron Works  
                                   Hecla Archit. Bronze Iron Works  
                                   Lewis & Fowler Mfg  
                                   Progress. Iron Works  
                                   South Brooklyn Steam Engine Works  
                                   Taylor Williams & Sons  
                                   Williamsburg Iron Foundry  
 Buffalo, N. Y :.....Buffalo Cast Iron Pipe Co  
                                   Eagle Iron Works  
                                   King Iron Works  
                                   Geo. W. Tiff Sons & Co  
 New York City :.....Becket Foundry and Machine Co  
                                   Samuel S. Bent & Son  
                                   Birmingham Iron Foundry  
                                   The E. G. Blakslee Mfg Co  
                                   Central Forge Works  
                                   Cheny & Hewlett  
                                   Clauson & Hoffmeyer  
                                   Coldwell Iron Works  
                                   Delameter Iron Works  
                                   Hecla Archit. Bronze and Iron Works  
                                   Jackson Archit. Iron Works  
                                   Jonson Foundry and Machine Co  
                                   Lincoln Iron Works  
                                   Manhattan Iron Works Co  
                                   J. L. Mott Iron Works  
                                   T. Shriver & Co  
                                   Union Iron Works  
                                   Wallis Iron Works  
 Oswego, N. Y :.....Kingsford Foundry and Machine Wks  
 Poughkeepsie, N. Y: Lane Bros  
                                   Poughkeepsie Foundry and Machi. Co  
 Rochester N. Y :.....Co-operative Foundry Co  
                                   Enterprise Foundry Co  
                                   Munn Austice & Co

Syracuse, N. Y:.....Phoenix Foundry and Machine Co  
                                   Porter Mfg Co  
                                   Syracuse Malleable Iron Works  
 Troy, N. Y:.....Fuller & Warren Co  
                                   Morrison Colwell & Page  
                                   Troy Architect. Iron Works  
                                   Troy Malleable Iron Co  
 Alliance, O: .....Morgan Engineering Co  
 Bucyrus, O:.....Bucyrus Steam Shovel and Dredge Co  
 Canton, O:.....The Miller Mfg Co  
 Cincinnati, O:.....Blymeyer Iron Works  
                                   Excelsior Foundry Co  
                                   Globe Foundry Co  
                                   The I. & E. Greenwald Co  
                                   Hamilton Iron Foundry  
                                   The L. James Haven Co  
                                   Hoffinghoff & Lane Foundry Co  
                                   Lane & Bodley Co  
                                   Queen City Foundry  
                                   Queen City Machine Works  
                                   The Stacey Mfg Co  
                                   Sam. C. Tatum & Co  
 Cleveland, O: .....Bowler & Co  
                                   T. H. Brooks & Co  
                                   City Foundry Co  
                                   Cleveland City Forge and Iron Co  
                                   Cleveland Foundry Co  
                                   Cleveland Ship Building Co  
                                   Excelsior Iron Works Co  
                                   The Globe Iron Works Co  
                                   The Kilby Mfg Co  
                                   Maher & Brayton  
                                   Myers Mfg and Foundry Co  
                                   Riverside Foundry Works  
                                   Standard Foundry and Mfg Co  
                                   The Taylor & Boggis Foundry Co  
                                   The Variety Iron Works Co  
                                   Walker Mfg Co  
                                   Thomas D. West Foundry Co  
 Columbus, O: .....Columbus Machine Co  
                                   Eagle Foundry  
                                   Simpson Iron Co  
                                   South End Foundry  
                                   Union Foundry  
 Dayton, O:.....Buckeye Iron and Brass Works  
                                   W. P. Callahan & Co  
                                   Phoenix Iron Works  
 Harmer, O:.....Harmer Foundry and Machine Co

Lancaster, O:.....Eagle Machine Co  
 Logan, O:.....Motherwell Iron and Steel Co  
 Mansfield, O:.....Union Foundry and Machine Works  
 Marion, O:.....Marion Malleable Iron Works  
 Middleport, O:.....Ohio Machine Co  
                                 Vulcan Machine Co  
 Portsmouth, O:.....Portsmouth Foundry and Machine Wks  
 Sandusky, O:.....Barney & Kilby  
 Springfield, O:.....Blakeney Foundry Co  
 Toledo, O:.....Eagle Foundry  
                                 N. Haughton Foundry and Machine Co  
                                 Russell Iron Works  
                                 Toledo Foundry and Machine Co.  
                                 Vulcan Iron Works  
 Warren, O:.....Ætna Machine Co  
 Wellston, O:.....Wellston Foundry and Machine Co  
 Wilmington, O:.....Champion Bridge Co  
 Portland, Oregon:..Carroll & Johnson  
                                 Willimette Iron Works  
 Alleghaney, Pa:.....Thos. Carlin's Sons  
                                 Porter Foundry and Machine Co  
                                 Union Foundry and Machine Co  
 Altoona, Pa:.....Altoona Iron Co  
 Emporium, Pa:.....Emporium Machine Co  
 Erie, Pa:.....Erie City Foundry  
                                 Erie Forge Co  
                                 Globe Iron Foundry  
                                 Humboldt Iron Works  
                                 Southside Iron Works  
 Lindsey, Pa:.....Clayville Mfg Co  
 Meadville, Pa:.....Meadville Vice Co  
                                 Phoenix Iron Works  
 Oseola, Pa:.....Oseola Mfg Co  
 Philadelphia, Pa: C. A. Blessing  
                                 E. E. Brown & Co  
                                 L. S. Cassin & Co  
                                 Chambers Bro. & Co  
                                 Chester Foundry and Machine Co  
                                 The J. Samuel Creswell Iron Works  
                                 Flagg, Stanley & Co  
                                 C. Hitzeroth  
                                 James Moore  
                                 North Bro. Mfg Co  
                                 A. Penn Iron Works  
                                 Theo. B. Rohrmann  
                                 Schuman & Lynch  
                                 I. A. Sheppard & Co  
                                 Southwark Foundry and Machine Co

Philadelphia, Pa:...Tacony Iron and Metal Co  
                                   Union Iron Foundry  
                                   Thomas Wood & Co  
 Pittsburg, Pa:..... Fisher Foundry and Machine Co  
                                   Jones & Laughlin  
                                   Lewis Foundry and Machine Co  
                                   The McConway, Torley Co  
                                   Machintoch, Hemphill & Co  
                                   Marshall Foundry and Construction  
                                   National Foundry & Pipe works  
                                   Pittsburg Foundry Co  
                                   Pittsburg Mfg Co  
                                   Reed Foundry Co  
                                   Robinson Rea Mfg Co  
                                   Sraife Foundry and Machine Co  
                                   I. & S. Totten & Hogg  
                                   Union Foundry and Machine Co  
 Reading, Pa:.....F. & M. Mellert Co  
 Scranton, Pa:..... Green Ridge Iron works  
 Warren, Pa: .....Struthers, Wells & Co  
 Wilkesbarre, Pa: ...Dickson Mfg Co  
                                   Vulcan Iron Works  
                                   Wilkesbarre Iron Works  
 Hope Valley, R. I: Nichols and Langworthy Machine Co.  
 Providence, R. I:...Builders Iron Foundry  
                                   Corliss Steam Engine Co  
                                   Fuller Iron Works  
                                   Granger Foundry and Machine Co  
                                   New England Butt Co  
                                   Phoenix Iron Foundry  
                                   Providence Steam Engine Co  
                                   R. I. Malleable Iron Works  
 Chattanooga,Tenn: Cahill Iron Works  
                                   Chattanooga Iron Co  
                                   Lookout Rolling Mill Co  
                                   Providence Steel Works  
                                   Roane Iron Co  
                                   Vulcan Iron and Nail Works  
                                   WarrenCar and Wagon Foundry  
 Knoxville, Tenn:...Knoxville Iron Co  
                                   Knoxville Foundry and Machine Co  
 Memphis, Tenn:... Gun & Pagin  
                                   T. L. Risk & Co  
 Nashville, Tenn: ...Cherry, Morrow & Co  
                                   S. E. Jones & Sons  
                                   Novelty Foundry Co  
                                   Tenn. Range and Mfg Co  
 Calvert, Texas:.....Calvert Foundry and Mfg Co

Galveston, Texas: ...C B. Lee & Co  
 Houston, Texas: ....Wiggins & Simpson  
 Marshall, Texas: ...Marshall Car and Foundry Co  
 Tyler, Texas: .....Dilley Foundry and Machine Co  
 Salt Lake City: .....Davis Howe & Co  
                                 Salt Lake Foundry and Machine Co  
 Rutland, Vt: .....Lincoln Iron Works  
                                 Rutland Foundry & Machine Shop Co  
 St. Johnsbury, Vt; Acme Iron works  
 Goshen, Va: .....The Iron and Steel Association  
 Lynchburg, Va: ....Cleveland & Sons  
 Norfolk, Va: .....Elizabeth Foundry  
                                 Etna Iron works  
                                 Norfolk Iron works  
 Portsmouth, Va: ...Portsmouth Iron works  
 Richmond, Va: .....Jos. Hall Co  
                                 Old Dominion Iron and Nail works  
                                 Asa Snyder & Co  
                                 Tredegar Iron works  
                                 Vulcan Iron works  
 Palatine, West Va: Marion Machine works  
 Eau Claire, Wis: ...Phoenix Mfg Co  
 Milwaukee, Wis: ...Edw. P. Allis & Co  
                                 Wm. Bayley & Co  
                                 The Filer Stowell Co.  
                                 Hoffman & Billings Mfg Co  
                                 Moore Mfg and Foundry Co  
                                 The Wilkin Mfg Co

#### **LAMP AND GASBURNER MANUFACTURERS.**

Meriden, Conn: ... Edward Miller & Co  
 Newark, N. J. ....The Albo Carbon Light Co  
 Brooklyn, N. Y: ...James W. Lyon  
 New York City: ....E. P. Gleason Mfg Co  
 Canton, O: .....The Sun Vapor Street Light Co  
 Philadelphia, Pa: ...Chas. Gefroerer  
                                 Henry Schrader  
                                 The Siemens Lungren Co  
 Pittsburg, Pa: .....The Albo Carbon Light Co

#### **LAMP AND LANTERN MANUFACTURERS.**

San Francisco, Cal: E. Boesch & Co  
                                 A. S. Graf & Co  
 Meriden, Conn: ....Bradley & Hubbard Mfg Co  
                                 The Chas. Parker Co  
                                 Meriden Britannia Co  
                                 Edw. Miller & Co  
 Waterbury, Conn: Benedict & Burnham Mfg Co

Waterbury, Conn :...Homes, Booth & Haydens  
Plume & Atwood Mfg Co  
Washington, D. C: Breach Loading Lantern Co  
Chicago, Ill ;.....The George Bohner Co  
Cass Lamp works  
Climax Mfg Co  
Chris. Edwards Oil Burner & Mfg Co  
Chicago Gas Lamp Illuminating Co  
Globe Light and Heat Co  
Plume & Atwood Mfg Co  
Railroad Signal Lamp and Lantern Co  
Western Wheeler Reflector Co  
Indianapolis, Ind :...Sun Vapor Street Light Co  
Boston, Mass :.....American Health Supply Co  
Boston Lamp Co  
Craighead and Kintz Mfg Co  
Plume & Atwood Mfg Co  
Minneapolis, Minn: Sun Vapor Street Light Co  
St. Louis, Mo: .....Franklin Gas Lamp Co  
Kraushaar Lamp and Reflector Co  
F. Meyrose & Co  
S. Louis Lantern Co  
New Brunswick, N. J: N. J. Lamp and Bronze works  
Brooklyn, N. Y:.....N. Y. Kerosene Gas Light Co  
New York City :.....H. S. Almy & Co  
Am. Belgian Lamp Co  
Angle Lamp Co  
Ausonia Brass and Copper Co  
Bartlett Street Lamp Mfg Co  
Bradley & Hubbard Mfg Co  
Clawson & Hoffmeyer  
E. P. Gleason Mfg Co  
B. Goetz Mfg Co  
Hinrichs & Co  
Holmes, Booth & Haydens  
Krusse & Baron  
Manhattan Brass Co  
The Mitchell & Vance Co  
Rochester Lamp Co  
Ed. Rorke & Co  
L. Straus & Sons  
The U. S. Wenham Pat. Gas Lamp Co  
The U. S. Supply Co  
Rochester, N. Y:...Kelly Lamp Co  
Rochester Lantern Co  
Syracuse, N. Y:.....Steam Gauge and Lantern Co  
Watertown, N. Y:..Hitchcock Lamp Co  
Cincinnati, O: .....The Alba Lamp Co

Cincinnati, O : .....The Clipper Mfg Co  
                                   The McHenry Co  
                                   Post & Co  
                                   Queen City Lamp Co  
 Cleveland, O:.....Lamp and Brass works  
                                   W. J. Gordon  
                                   The Standard Lighting Co  
                                   Star Oil Burner Co  
 Columbus, O: .....Columbus Lantern works  
 Alleghany, Pa: ...Pittsburg Brass Co  
 Philadelphia, Pa:....American Reflector Co  
                                   Mascot Mfg Co  
                                   C. H. Pascoe & Co  
                                   The Siemens Lungren Co  
                                   Standard Gas Lamp Co  
                                   The Pennsylvania Globe Gas Light Co  
                                   Wheeler Reflector and Light Co  
                                   The Neumann Co  
                                   Wilhelm & Co  
 Pittsburg, Pa:.....S. Morrow & Co  
 Milwaukee, Wis: ...Loeffelholz & Co

#### **LOCK MANUFACTURERS.**

San Francisco, Cal: California Safe and Lock Co  
                                   Wichell & Richards  
                                   S. B. Paige & Co  
 Branford, Conn:...Branford Lock works  
 Bridgeport, Conn:..The Cornwall & Patterson Mfg Co  
                                   The Smith & Egge Mfg Co  
 Meriden, Conn :....The Chas. Parker Co  
 Middletown, Conn: William Wileox Mfg Co  
 New Britain, Conn: Corbin Cabinet Lock Co  
 New Haven, Conn: Mallory Wheeler Co  
 Norwalk, Conn:.....Duplex Supply Co  
                                   Norwalk Lock Co  
 Terryville, Conn:...Eagle Lock Co  
 Chicago, Ill:.....Automatic Lock Hook Mfg Co  
                                   Sargent, Greenleaf & Brooks  
                                   Yale & Towine Mfg Co  
 Boston, Mass :.....L. L. Bate & Co  
                                   Commercial Lock Co  
                                   Wm. Hall & Co  
                                   Hanson Elevator Lock Co  
 Newark, N. J: .....Phoenix Lock works  
                                   The National Lock Washer Co  
 New York City:.....Champion Safety Lock Co  
 New York City: .....Eagle Lock Co  
                                   The Mallory Wheeler Co



New York City : .....Norwich Lock Mfg Co  
   W. Wilcox Mfg Co  
 Burton, O : .....Edison Lock Co  
 Cincinnati, O : .....Cincinnati Safe and Lock Co  
   Consol. Time Lock Co  
   European Lock and Time Co  
 Cleveland, O : .....Industrial Lock and Mfg Co  
   National Safe and Lock Co  
   Perkins Lock Mfg Co  
 Geneva O : .....Eagle Lock Co  
 Philadelphia, Pa : ...Autom. Tumbler Lock Co  
   Miller Lock Co  
   Penn Lock Co  
 Pittsburg, Pa : .....Brittan, Graham & Mathes  
 York, Pa : .....York Safe and Lock Co  
 Providence, R. I : ...New England Butt Co

### **LOCOMOTIVE BUILDERS.**

Birmingham, Ala : ...Douglas Engine Co  
 San Francisco, Cal: Risdon Iron and Locomotive Works  
   Union Iron Works  
 Portland, Me : .....Portland Co  
 Mt. Savage, Md : .....Mt. Savage Locomotive Works  
 Boston, Mass : .....Hinkley Locomotive Co  
   Manchester Locomotive Works  
 Taunton, Mass : .....Locomotive Manfg Co  
 South Newmarket, N. H : G. E. Fifield  
 Paterson, N. J : .....Cooke Locomotive and Machine Co  
   Grant Locomotive Works  
 Dunkirk, N. Y : .....Brooks Locomotive Works  
 New York City : .....N. Y. Locomotive Works  
   Strong Locomotive Works  
 Schenectady, N. Y : McQueen Locomotive Works  
   Schenectady Locomotive Works  
 Alleghany, Pa : .....Pittsburg Locomotive and Car Works  
 Philadelphia, Pa : ...The Baldwin Locomotive Works  
 Pittsburg, Pa : .....H. K. Porter & Co  
 Providence, R. I : ...R. I. Locomotive Werks  
 Nashville, Tenn : ...Adams & Price  
 Richmond, Va : .....Richmond Locomotive and Machine Works

### **MACHINERY MANUFACTURERS.**

(See also Iron Works and Foundries.)

#### **AGRICULTURAL.**

Athens, Ala : .....Alabama Agricultural Mngf Co  
 Birmingham, Ala : Birmingham Tool and Implement Works  
 Little Rock, Ark : ...The Dudley E. Jones Co  
 Texarkana, Ark : .....Wilkerson C

Sacramento, Cal : ... Bull & Grant Farm Implement Co  
 San Francisco, Cal : Oliver Chilled Plow Works  
                                 Pacific Saw Manufacturing Co  
                                 Price Jacob  
                                 South Bond Iron Works  
                                 Truman, Hooker & Co  
                                 Wickson G. G., & Co  
 Stockton, Cal : ..... Stockton Harvester and Agricult. Works  
 Denver, Col : ..... Kinsey J., Implement Co  
 Hartford Conn : ..... The Collins Company  
 New Haven, Conn : .. Bradley Robt. B., & Co  
 Fargo, Dak : ..... Howland & Sons  
 Odessa, Del : ..... Aspril L. V., & Son  
 Washington, D. C : .. Heiskell P. H., Jr., & Co  
 Jacksonville, Fla : ... Hubbard S. B., & Co  
 Atlanta, Ga : ..... Southern Agrl. Works  
 Alton, Ill : ..... Alton Agricult. Works  
 Chicago, Ill : ..... Appleton Mfg Co  
                                 Austin F. C., Mfg Co  
                                 Goulds & Caldwell  
                                 McCormick Harvesting Machine Co  
                                 Morgan D. S., & Co  
                                 Rice & Whitacre Mfg Co  
                                 Silver & Deming Mfg Co  
                                 The Plano Mfg Co  
                                 Walter A., Machine Co  
                                 Warder, Bushnell & Glesner  
 Quincy, Ill : ..... Quincy Agricultural Works  
 Fort Wayne, Ind : ... Horton Mfg Co  
 Indianapolis, Ind : ... The Beedle & Kelly Co  
 Council Bluffs, Ia : .. Marseilles Mfg Co  
 Davenport, Ia : ..... Davis I. S., & Sons  
 Kansas City, Mo : ... Trumbull, Reynolds & Allen Mfg Co  
 Louisville, Ky : ..... Avery B. F., & Sons  
                                 Southwestern Agricultural Works  
 Portland, Me : ..... Kelley D. T.  
 Baltimore, Md : ..... Dinsmore & Kastendike  
                                 Whitman E., Sons & Co  
 Boston, Mass : ..... Ames Plow Co  
                                 Whitman & Barnes Mfg Co  
 Detroit, Mich : ..... Rawson Mfg Co  
 Grand Rapids, Mich : Wheeler & Green  
 Jackson, Mich : ..... Michigan Implement and Machine Co  
 Minneapolis, Minn : Advance Thresher Co  
                                 The Manufacturers Syndicate  
                                 The Minneapolis Threshing Machine Co  
                                 Northwestern Implement and Wagon Co  
 St. Paul, Minn : ..... Mast, Buford & Burwell Co

Kansas City, Mo :... Esterly Harvesting Machine Co  
 St. Louis, Mo :..... Birdsell Mfg Co  
                                  Kingsland & Douglas Mfg Co  
                                  Whitman Agricultural Co  
 Camden, N. J :..... Taylor Brothers  
 Albany, N. Y :..... Wheeler & Melick Mnf Co  
 New York City :..... Alexander L., & Co  
                                  The Hagganum Mfg Corporation  
 Rochester, N. Y :..... Vick James  
 Troy, N. Y :..... Crandall & Morrison  
 Canton, O :..... Aultman C., A Co  
 Cleveland, O :..... Luetkemeyer H. W., & Sons  
 Philadelphia, Pa :... Gardiner John, & Co

#### **CABLE RAILWAY MACHINERY.**

Kansas City, Mo :... Industrial Iron Works  
 Cleveland, O :..... Kilby Mfg Co

#### **ELECTRIC LIGHT.**

Manchester, Conn :.. Mather Electric Co  
 Middletown, Conn :.. Schuyler Electric Co  
 Plantsville, Conn :.. Connecticut Motor Co  
 Windsor, Conn :..... Eddy Electric Mfg Co  
 Chicago, Ill :..... Sperry Electric Co  
 Peoria, Ill :..... Royal Electric Co  
 Rockford, Ill :..... Rockford Electric Mfg Co  
 Fort Wayne, Ind :... Fort Wayne Electric Co  
 Indianapolis, Ind :... The C. D. Jenney Co  
 Terre Haute, Ind :... Kester Electric Co  
 Davenport, Iowa :... Hawkeye Electric Mfg Co  
 Boston Mass;..... Consolidated Electric Mfg Co  
                                  Economic Electric Mfg Co  
                                  Kimball E. M., & Co  
                                  Thomson-Houston Electric Co  
                                  Van Choate Electric Co  
 Fitchburg, Mass :... Colburn J. W., & Co  
 Lowell, Mass :..... Eastern Light and Storage Battery Co  
 Detroit, Mich :..... Detroit Electrical Works  
                                  Standard Electric Co  
                                  Woodward Electrical Co  
 St. Paul, Minn :..... The Acme Electric Co  
 St. Louis, Mo :..... Heisler Electric Light Co  
 Brooklyn, N. Y :..... Brooklyn Electric Construction Co  
                                  Elektron Mfg Co  
                                  Mutual Electric Mfg Co  
                                  R. & B. Electric Mfg Co  
 New York City :..... Anglo-Am. Electric Light Mfg Co  
                                  Ball Electric Light Co

New York City :..... The Clark Electric Comp  
                                  Cleveland Motor Co  
                                  Continental Dynamo Co  
                                  Daft Electric Light Co  
                                  Easton Electric Co  
                                  Electric Construction and Supply Co  
                                  Electric Accumulator Co  
                                  Empire City Electric Co  
                                  Eureka Electric Co  
                                  Excelsior Electric Co  
                                  Gibson Electric Co  
                                  Isolated Accumulator Co  
                                  Julien Electric Co  
                                  Macroon Storage Battery Co  
                                  New Am. Electric Arc Light Co  
                                  New Century Electric Co  
                                  Sawyer Man Electric Co  
                                  United Edison Mfg Co  
                                  U. S. Electric Lighting Co  
                                  Wenstrom Northern Electric Co  
 Cincinnati, O;..... G. F. Card Mfg Co  
 Cincinnati, O :..... Queen City Electric Co  
 Cleveland, O :..... The Bruch Electric Co  
 Lima, O :..... Silvey Electric Co  
 Philadelphia, Pa :... Aurora Electric Co  
                                  Electro Dynamic Co  
                                  La Roche Electric Works  
                                  National Electric Light & Power Works  
                                  Novelty Electric Co  
 Pittsburg, Pa :..... Westinghouse Electric Co  
 Eau Claire, Wis :... National Electric Mfg Co

#### GAS MACHINES.—(Gas Works.)

San Francisco, Cal : H. J. Dykes & Co  
                                  Independent Autom. Portable Gas Works  
 Chicago, Ill :..... Bradley Gas Machine Co  
                                  Fahnejehn Incandescent Gas Light  
                                  Gilbert & Barker Mfg Co  
                                  Globe Light and Heat Co  
                                  Mathews Gas Machine Co  
 Baltimore, Md :..... Lay Gas Machine Co  
 Boston, Mass :..... Connelly & Co  
                                  National Automatic Gas Machine Co  
                                  Rossney Gas Saving Co  
                                  Gilbert & Barker Mfg Co  
 Detroit, Mich :..... Detroit Heating and Lighting Co  
 Newark, N. J :..... Denny Bro. & Co  
                                  Smith & Sayre Mfg Co

Newark, N. J : .....Tirrells Gas Machine Co  
 New York City :.....Connelly & Co  
                                   Continental Gas Engine Co  
                                   Gilbert & Barker Mfg Co  
                                   Natural Gas Improvement Co  
                                   Welch & Lawson  
 Cincinnati, O :..... The Coleman Gas Mach. Mfg Co  
                                   The A. J. English Co  
                                   J. G. Isham & Co  
 Cleveland, O :..... The Cleveland Gas Machine Co  
 Morristown, Pa :.....Lowe Mfg Co  
 Philadelphia, Pa :...Beacon Construction Co  
                                   Consumer Gas Works  
                                   Gas Works Construction Co  
                                   Louisiana Construction Co  
                                   The Pennsylvania Globe Gas Light Co  
                                   United Gas Improvement Co

#### HYDRAULIC MACHINERY.

San Francisco, Cal: Dow Steam Pump Works  
                                   W. T. Garratt & Co  
 San Francisco, Cal: F. Smith & Co  
                                   Weed & Kingwell  
 Ausonia, Conn :... The Farrell Foundry Machine Co  
 Birmingham, Ala :.. Birmingham Iron Foundry  
 Middletown, Conn :..W. Douglas  
 Wilmington, Conn:..A. Gawthrop & Son  
 Louisville, Ky :.....Ainslie, Cochran & Co  
 Baltimore, Md :.....Thomas K. Carey & Bros  
                                   Ernest Frank & Son  
                                   Snowden & Cowman  
 Boston Mass :.....Lowell Machine Shops  
 Brooklyn, N. Y : ....Wm. Taylor & Sons  
 New York City :.....The Tuerk Hydraulic Power Co  
                                   Watson & Stillman  
 Alliance, O :.....Morgan Engineering Co  
 Cincinnati O :..... John McGowan Co  
 Cleveland O :.....Kaufholz Bros  
 Dayton, O :.....G. J. Roberts & Co  
                                   The Smith & Vaile Co  
 Salem, O :.....Silver Deming Mfg Co  
 Alleghany, O :.....Duff Mfg Co  
 Philadelphia, Pa :...Arthur Falkenan  
                                   Tinius, Olsen & Co  
 Pittsburg, Pa :.....Mackintosh, Hemphill & Co  
                                   Scaife Foundry Machine Co  
 Providence, R. I :... Phoenix Iron Foundry  
 Roanoke, Va :..... Hydraulic Engine Mfg Co

## MACHINERY IN GENERAL.

*Special, Experimental and Model Machinery, Etc.*

San Francisco, Cal : Aetna Iron Works  
Joshua Hendy Machine Works  
Denver, Col : ..... Hendey & Meyer Engineering Co  
Hendrie & Bolthoff Mfg Co  
Kennedy & Pierre Machinery Co  
Western Prospecting Co  
Bridgeport, Conn : .. Bridgeport Machine & Tool Works  
The Bridgeport Forge Co  
New London, Conn: D. E. Whiton Machine Co  
Wilmington, Del : .. Trump Machine Co  
Chicago, Ill : ..... Berlin Machine Works  
Machinist Supply Co  
Palmer Bros  
Palmyra Manfg Co  
Porter Manfg Co  
Preble Manufacturing Works  
Schrauerm & Pease  
Chicago, Ill : ..... M. H. Walker & Co  
S. A. Woods Machine Co  
Galesburg, Ill : ..... Industrial Works  
Rockport, Ill : ..... Lillibridge & Erbach  
Utter Manfg Co  
Springfield, Ill : ..... Gillet & Hunter  
Indianapolis, Ind : Chandler & Taylor Co  
Howard Machine Works  
Steel Pulley and Machine Works  
Milton, Ind : ..... Dorsey Machine Co  
Munic, Ind : ..... Munic Engine Works  
New Albany, Ind: Hegewald & Co  
Dubuque, Iowa : ..... Novelty Iron Works  
Louisville Ky : ..... W. T. Pyne  
Union Machine Co  
Baltimore, Md : ..... Bartlett, Haywood & Co  
James Bates  
Thomas K. Carey & Bros  
The Ellicott Machine Co  
H. C. Larabee  
Parker & Knight  
Stephenson & Co  
Boston, Mass : ..... Am Tool and Machine Co  
Atlantic Works  
Julian D'este & Co  
Edson Manfg Co  
Electric Machine Co  
Hersey Brothers

Boston, Mass :.....Holmes & Blanchard  
                                   Peet Valve Co  
                                   Pettee Machine Works  
                                   Riley & Gray  
                                   Webb & Watson  
 Waltham, Mass :.....John Stark  
 Westfield, Mass :...The H. B. Smith Co  
 Worcester, Mass :...A. Burlingam & Co  
                                   L W. Pond Machine Co  
                                   Pratt Sumner & Co  
 Detroit, Mich : .....Christian Bauman  
                                   Sam F. Hodge & Co  
                                   A. Spranger & Son  
 Grand Rapids, Mich : F. Hartman & Co  
 Kalamazoo, Mich : Strait & Packard  
 Minneapolis, Minn : W. Cooper & Co  
                                   Kinward & Haines Manfg Co  
 St. Paul, Minn :.....Lee & Hoff  
                                   Wm. Roger & Co  
 Meridian, Miss :....Progressive Machine Works  
 Kansas City, Mo :...Jordan & Leas  
                                   Witte Iron Works  
 St. Louis, Mo :.....Albrecht & Schellhorn  
                                   Bignall & Keeler Manfg Co  
                                   D. A. Brislin  
                                   Chouteau Manfg Co  
                                   J. A. Crossman & Co  
                                   W. Ellison & Son  
                                   Felber Machine Works  
                                   Hood & Murray Machine Works  
                                   Mielenz, Ziegler & Co  
                                   C. Moxey & Co  
                                   E. Wachter Machine Works  
                                   Westlake & Button Novelty Works Co  
 Omaha, Neb :.....Omaha Model Machine Works  
                                   Paxton & Vierling  
 Mount Holly, N. J : T. C. Alcott & Son  
                                   Davison & Driggs  
                                   Gould & Eberhardt  
                                   W. G. Greenfield & Co  
                                   Ohl & Haffner  
                                   G. E Parker & Co  
                                   Pierre & Noble  
                                   L. Stillwell & Co  
 Plainfield, N. J :.....Pond Mach. Toll Co  
 Trenton, N. J :.....Duncan McKenzie  
 Albany, N. Y :.....Sullivan & Ehlers  
 Brooklyn, N. Y :.....Bentley & Adams

Brooklyn, N. Y :.....Brady Manfg Co  
                                  Kennedy & Diss  
                                  James W. Lyon  
                                  Merrill Bros  
                                  J. S. Simpson  
                                  White & Price  
 Buffalo, N. Y :.....Daupster Engine Works  
                                  Frank & Co  
                                  Kendall Manfg Co  
                                  Niagara Machine Co  
                                  Niagara Stamping and Tool Co  
                                  The J. T. Noye Manfg Co  
 New York City :...Chris. Abele  
                                  P. Backus & Son  
                                  Ph. J. Bender & Sons  
                                  Benton Manfg Co  
                                  J. S. Birch & Co  
                                  Chas. Bramberg  
                                  J. DeBauvais  
                                  Delamater, C. D. & Co.  
 New York City:.....Eddy, George B.  
                                  Emmerich & Vonderlehr  
                                  Jackson T. A.  
                                  Kek & Co.  
                                  Lieb Machine Works  
                                  N. Pattern Machine & Die Co.  
 Rochester, N.Y. . Connell & Dengler  
                                  L. S. Graves & Son  
 Troy, N. Y :.....Andams Laundry Machine Co  
                                  Knowlson & Kelley  
                                  Tolhurst Machine Co  
 Waterford, N, Y:...Gage Machine Works  
 Cincinnati, O :.....Wm. Barker & Co  
                                  Chas. Berkhemer & Co  
                                  Bichford Drill Co  
                                  The Egan Co  
                                  Kech & Co  
                                  Krieger, Burkhardt & Co  
                                  The Laidlaw & Dunn Co  
                                  Lodge & Davis Machine Tool Co  
                                  Muller Machine Tool Co  
                                  Lawrence Roth  
                                  Sebastian May & Co  
                                  Straub Machinery Co  
 Cleveland, O :.....J. Evans & Co  
                                  Forest City Machine Works  
                                  Franklin Machine Works  
                                  Horsburg & Scott



Huntington & Lunt  
 Kaufholz Bros  
 Otto Konigslow .  
 Langenau Manufacturing Co  
 River Machine Co  
 The Variety Iron Works Co  
 Walker Manufacturing Co  
 Columbus, O : .....Capital City Machine Works  
 Industrial Machine Works  
 I. G. Pulling & Co  
 The P. Hayden Saddlery Hardware Co  
 Dayton, O : .....Buckeye Iron and Brass Works  
 Joice, Cridland & Co  
 The Smith & Vaile Co  
 Alleghany, Pa : .....Specialty Manufacturing Co  
 Philadelphia, Pa : ...Belmont Machine Works  
 Bemet, Milles & Co  
 Berry & Orton Co  
 James Cardell & Co  
 Chambers Bros. & Co  
 Enterprise Quilting Machine Co  
 Gordon & Gilbert  
 Edwin Harrington, Son & Co  
 Jos. Heginbottom Machine Co  
 Lamb Machine Co  
 National Boiler and Machine Co  
 Neafie & Levy  
 Olsen, Tinius & Co  
 Pedrick & Ayer  
 Schaum & Uhlinger  
 L. Schutts & Co  
 Taws & Hartman  
 Textile Machine Co  
 Wynn & Henwood  
 Pittsburg, Pa : .....Bair & Gazzam  
 Best, Fox & Co  
 Butler & Gardner  
 Franz & Braun  
 McGill & Co  
 Shook, Anderson & Co  
 S. Tretheway and Co  
 Nashville, Tenn : ...Southern Novelty Works  
 Dallas, Texas : .....Hetherington & Nason  
 Galveston, Texas : ...Walsh & Cleary  
 Salt Lake City, Utah : Silver and Iron Works  
 Utah & Montana Machine Co  
 Milwaukee, Wis : ...The Wilkin Manfg Co

### MODEL MAKING.

San Francisco, Cal.: Coffin, Alonzo  
Bridgeport, Conn.: Platt, O. S.  
New Haven, Conn.: Henn, A. S. & Co.  
Lambert, Geo D.  
Waterbury, Conn.: Draher, J.  
Chicago, Ill :..... .. Aronson, F.  
Brown, H. L.  
Garden City Model Works  
Meunch, Rob  
Union Model Works  
Indianapolis, Ind: Hood, H. P.  
Boston, Mass: . . . . Burley, John  
Steers, William  
St. Paul, Minn: . . . Seeger, Rob  
St. Louis, Mo: . . . . Buchanan & Co  
Medart, Fred  
Jersey City, N. J: . . Currier, C. & Sons  
Trenton, N. J: . . . Baker, William H  
New York City; . Danies, Thomas  
Dutcher, G. W.  
Einbigler & Adler

### NEWS PAPERS.

Augusta, Me: . . . Maine Farmer  
Lewistown Me: . . Weekly Journal  
Portland, Me: . . . Maine State Press  
Concord, N. H: . . People & N. H. Patriot  
Dover, N. H: . . . Morning Star  
Manchester, N. H: Mirror & Farmer  
Battlesboro, Vt: . Vermont Phoenix  
Lyndon, Vt: . . . Vermont Union  
Montpelier, Vt: . . Argus & Patriot  
Boston, Mass: . . . Sunday Courier  
Weekly Globe  
Weekly Journal  
Mass. Ploughman  
New England Farmer  
New England Staaten Zeitung  
Pilot  
Greenfield, Mass: . Gazette & Courier  
New Bedford, Mass: Republican Standard  
Northampton, Mass: Hampshire Gazette  
Pittsfield, Mass: . Berkshire Co. Eagle  
Somerville, Mass: Journal  
Springfield, Mass: Weekly Republican  
Weekly Union  
Worcester, Mass: . Weekly Spy

Newport, R. I: . Mercury  
 Providence, R. I. . Sunday Telegram  
 Woonsocket, R. I : Patriot  
 Bridgeport, Conn : Rep. Standard  
 Danbury, Conn : . News  
 Hartford, Conn : . Conn. Catholic  
                             Conn. Courant  
                             Conn. Post  
                             Weekly Times  
 New Haven, Conn : Columbian Register  
                             Sunday Register  
 West Winsted, Conn Winsted Herald  
 Albany, N. Y : . . Cultivator & Country Gentleman  
                             Weekly Journal  
                             Sunday Press  
                             Weekly Times  
 Bath, N. Y : . . . Steuben Farmers Advocate  
 Brooklyn, N. Y : . Anzeiger  
                             News  
                             Review  
 Buffalo, N. Y : . . Aurora (Germ.)  
 Cambridge, N. Y : . Washington County Post  
 Elmira, N. Y : . . Husbandman  
 Hudson, N. Y : . . Gazette  
 Lockport, N. Y : . Niagara Democrat  
 New York City : . Am. Art Journal  
                             Am. Machinist  
                             Weekly Baptist  
                             Catholic Herald  
                             Christian Advocate  
                             Evening Post  
                             Weekly Herald  
                             Weekly News  
                             Woehentliche Staatszeitung  
                             Weekly Sun  
                             Weekly Times  
                             Weekly World  
 Rochester, N. Y : . Am. Rural Home  
                             Weekly Democrat  
                             Express  
 Syracuse, N. Y : . . Weekly Journal  
 Troy, N. Y : . . . Weekly Press  
                             Weekly Times  
 Utica, N. Y : . . . Herald, Gazette & Courier  
                             Weekly Observer  
                             Y. Drych  
 Watertown, N. Y : Reformer  
 Allentown, Pa. . . Friedens Bote

Allentown, Pa : .... Welt Bote  
 Bryn Mawr, Pa ; . Home News  
 Doylestown, Pa : . Bucks County Intelligencer  
                                 Democrat  
 Germantown, Pa : . Telegraph, (weekly)  
 Harrisburg, Pa : . Telegraph, [weekly]  
                                 Lutheran Observer  
 Philadelphia, Pa : . Weekly Press  
                                 " Times  
                                 Ver. Staaten Zeitung  
 Pittsburg, Pa : . . Chronicle  
                                 Weekly Post  
                                 " Telegraph  
 Reading, Pa : . . . . " Eagle  
 West Chester, Pa : Jeffersonian  
 Asbury Park, N. J : Journal  
 Newark, N. J : . Journal Weekly  
 Baltimore, Md. . . American  
                                 Baltimorean  
                                 Deutsche Correspondent  
                                 Gazette  
                                 Weekly Sun  
                                 Telegram  
 Washington, D. C : Weekly Post  
                                 Star  
 Norfolk, Va : . . . Weekly Landmark  
                                 Virginian  
 Richmond, Va : . . Weekly State  
                                 " Whig  
 Wheeling, W. Va : Deutsche Zeitung  
                                 Intelligencer  
                                 Saturday Evening Journal  
 Goldsboro, N. C : . Transcript-Messenger  
 Atlanta, Ga : . . . Weekly Constitution  
                                 Sunny South  
 Columbus, Ga : . . Weekly Times  
 Savannah, Ga : . . . " News  
 Mobile, Ala : . . . Register  
 Montgomery, Ala : Weekly Adv. & Mail  
 Selma, Ala : . . . Southern Argus  
 New Orleans, La : . Weekly Deutsche Zeitung  
                                 Observer  
                                 Weekly Picayune  
                                 " Times  
 Austin, Texas : . . Texas Capital  
 Dallas, Texas : . . Weekly Herald  
 Galveston, Texas : Weekly News  
                                 " Texas Post

Houston Texas: . .	"	Age
San Antonio, Texas:	"	Express
	"	Freie Presse
Waco, Texas: . . .		Examiner and Patron
Little Rock, Ark.,	Weekly	Arkansas Democrat
	"	Arkansas Gazette
Frankfort Ky., . .	"	Kentucky Yeoman
Lexington, Ky., .	"	Press
Louisville, Ky., .		Agriculturist Legal Tender
		Weekly Anzeiger
	"	Commercial
	"	Courier-Journal
		Farmers Home Journal
Paris, Ky., . . . .		True Kentuckian
Chattanooga, Tenn.,	Weekly	Times
Knoxville, Tenn., .	"	Tribune
Memphis, Tenn., .	"	Appeal
	"	Avalanche
	"	Public Ledger
Nashville, Tenn., .	"	American
		Banner Weekly
Cincinnati, Ohio.,	Weekly	Abendpost
	"	Enquirer
	"	Gazette
	"	Volksfreund
Cleveland, Ohio., .	"	Herold
	"	Leader
	"	Plain Dealer
Columbus Ohio . .	"	Courier
	"	Ohio State Journal
	"	Westbote
Springfield, Ohio.,		Farm and Fireside
Steubenville, Ohio.,	Weekly	Herald
Toledo, Ohio., . .	"	Blade
Indianapolis, Ind.,		Indiana Farmer
		Indiana State Journal
		Indiana State Sentinel
		Weekly News
New Albany, Ind.		Ledger Standard
Notre Dame, Ind.,		Ave Maria
Shelbyville, Ind., .	Weekly	Shelbyville Democrat
Terre Haute, Ind.,		Gazette
Vincennes, Ind . .		Commercial Weekly
Bloomington, Ill., .	Weekly	Leader
	"	Pantagraph
Champaign, Ill., .		Champaign County Gazette
Chicago, Ill., . . .		Deutsche Warte

Chicago, Ill., . . .	Weekly Staats Zeitung
	" Inter Ocean
	" Irish Tribune
	" Journal
	" Katholisches Wochenblatt
	" Neue Freie Presse
	" News
	" Telegraph
	" Times
	" Tribune
Peoria, Ill., . . .	" Democrat
	" Transcript
Quincy, Ill., . . .	" Herald
	" Whig
Rockford, Ill. . . .	" Gazette
Rock Island, Ill. .	" Union
Springfield, Ill. .	" Ill. State Register
Adrian, Mich: . . .	" Times and Expositor
Detroit, Mich. . .	" Free Press
	" Post and Tribune
Kalamazoo, Mich. .	" Gazette
Fon du Lac, Wis. .	" Commonwealth
Janesville, Wis. . .	" Gazette
Madison, Wis. . . .	" Wisconsin State Journal
Milwaukee, Wis. . .	" Wisconsin
	" Herold (German)
	" Sentinel
Kansas City, Mo. .	" Mail
	" Times
St. Louis, Mo. . . .	" Anzeiger des Westens
	" Missouri Republican
	" Post-Dispatch
	" Times
	" Westliche Post
Burlington, Iowa. .	" Gazette
	" Hawkeye
Davenport, Iowa. .	" Democrat
	" Gazette
Des Moines, Iowa. .	" Iowa Staats Anzeiger
	" Iowa State Register
Dubuque, Iowa. . .	" Times
Iowa City, Iowa. . .	" Republican
Keokuck, Iowa. . .	" Constitution
Marshalltown, Iowa	" Times Republican
Sioux City, Iowa. .	" Journal
St. Paul, Minn. . .	" Dispatch
	" Globe
	" Pioneer Press

Winona, Minn. . .	"	Republican
Atkison, Kansas .	"	Patriot
Emporia, Kansas. .	"	News
Leavenworth, Kan.	"	Appeal and Tribune
Topeka, Kansas. .	"	Kansas Farmer
	"	Commonwealth
Lincoln, Neb. . .	"	Neb. State Journal
Nebraska City, Neb	"	Press
Omaha, Neb. . . .	"	Bee
	"	Republican
Denver, Colo. . .	Colorado Farmer & Live Stock Journal.	
	Weekly Rocky Mountain News	
	"	Times
	"	Tribune
Pueblo, Colo. . . .	"	Colo. Chieftain
Los Angeles, Cal. .	"	Herald
	"	Express
Oakland, Cal. . . .	"	Times
Sacramento, Cal. .	"	Bee
San Francisco, Cal.	"	Alta California
	California Farmer	
	Weekly Chronicle	
	"	Post
Portland, Oregon. .	"	Oregonian
	Willamette Farmer	

#### NOVELTY MANUFACTURERS.

Bridgeport, Conn.	The Hatch & Holmes Mfg. Co
Waterbury, Conn. .	American Pin Co
	Novelty Mfg. Co
	The Chapman & Armstrong Mfg. Co
Chicago, Ill. . . .	Art Album Co
	Carr E. W., & Co
	Inventors Exchange
	U. S. Home Mfg. Co
	Wunder & Co
Boston, Mass. . . .	Bay State Mfg. Co
	M. W. Carr Co
	Novelty Brass Co
	Henry W. Peabody Co
	Wells Mfg. Co
Easton, Mass. . . .	N. E. Specialty Co
Leominster Mass. .	Dulite Novelty Co
Newburyport, Mass.	Chrolitthion Novelty Co
North Adams Mass.	Novelty Mfg. Co
Worcester, Mass. .	Alex. McDonald
Detroit, Mich. . .	Black L., & Co
	Eagle Mfg. Co

Detroit, Mich :.....Metallic Goods Co  
 St. Louis, Mo. . . . Coe Yonge & Co  
 Omaha, Neb. . . . Pioneer Novelty Co  
 Newark N. J. . . . Bogardus New Art Co  
                             Newark Novelty Co  
                             Newark Specialty Co  
 N. Y. . . . . Auburn Novelty Co  
 Brooklyn, N. R. . . Clinton Mfg. Co  
 New York City. . . The Am. Artistic Gold Stamping Co  
                             American Pin Co  
                             Arlington Novelty Co  
                             Brass Goods Mfg. Co  
                             Celluloid Novelty Co  
                             Eureka Trick and Novelty Co  
                             The H. B. Hardenburg Co  
                             Harman & Straus Specialty Co  
                             Inventors Mfg. Co  
                             Kaufmann & Strauss  
                             Mnfs. Distributing Co  
                             Novelty Mfg. Co  
                             Rob. Sneider  
                             Union Metal Novelty Co  
                             C. F. Verzier  
                             Hoher H. Wellman  
                             World Mfg. Co  
 Syracuse, N. Y. . . Novelty Mfg. Co  
 Troy, N. Y. . . . . Troy Novelty Co  
 Cincinnati, O. . . International Novelty Co  
                             Monarch Novelty Co  
                             Queen City Novelty Supply Co  
 Girard, Pa. . . . . Keystone Mfg. Co  
 Philadelphia, Pa. . A. C. Knight E Co  
                             Phila. Novelty Co  
                             A. Schoenhut & Co  
 Watsontown, Pa. . Watsontown Novelty Co  
 Providence, R. I. . Towel Rack & Novelty  
                             Vanstone Mfg. Co  
 Springfield, Vt. . . Vermont Novelty Works Co  
 Milwaukee, Wis. . Elite Mfg. Co

#### PAINT AND COLOR MANUFACTURERS.

San Francisco, Cal. California Paint Co  
                             Pacific Gilt Lead Works  
                             Pacific Rubber Paint Co  
 Chicago, Ill. . . . Brainard Paint Co  
                             Cary-Ogden Co  
                             Chicago White Lead Co  
                             Matterson Bro & Co



Chicago, Ill :.....The Sherwin-Williams Co  
 Baltimore, Ill :.....Rubber Paint Co  
                                 John Briggs & Co  
                                 C. E. Folsom & Co  
                                 Jones & Co  
                                 The Sherwin-Williams Co  
 Detroit, Mich :.....Detroit White Lead Co  
                                 Penins. W. L. and Color Works  
 Minneapolis, Miss: W. W. Sly Paint Manfg Co  
 St. Paul, Minn :.....Steams Paint Manfg Co  
 St. Louis, Mo :.....Mound City Paint and Color Co  
                                 G. M. Nelson Paint Co  
                                 St. Louis Paint Manfg Co  
                                 Standard Paint Co  
 New York City :.....The Andrews Paint and Color Co  
                                 Am. Mixed Paint Co  
                                 A. B. Assbacher & Co  
                                 Femoline Chemical Co  
                                 Geo. N. Gardiner  
                                 German Color Co  
                                 Heller & Merz Co  
                                 New York Insulating Co  
                                 The Prince Manfg Co  
                                 R. F. Seaman & Co  
                                 Standard Paint Co  
                                 S. P. Wetherill Co  
 Troy, N. Y :.....Troy Paint and Color Works  
 Cincinnati, O : .....Fav. Paint and Oil Works  
 Cleveland, O : .....Iron-clad Paint Co  
                                 Thompson Manfg Co  
 Alleghany, Pa : .....M. B. Snyder & Co  
 Philadelphia, Pa :...Eureka Paint and Color Works  
                                 N. Z. Graves & Co  
 Pittsburg, Pa :.....M. B. Snyder & Co  
 Chattanooga, Tenn : Southern Paint and Color Co.  
 Richmond, Va :.....C. W. Tanner & Co

#### **PATENT MEDICINE MANUFACTURERS.**

Chicago, Ill :.....Emmett Proprietary Co  
                                 Foley & Co  
                                 D. Kelly & Co  
                                 Koenig Medicine Co  
                                 J. B. Lynas & Co  
                                 Marshall Medicine and Chemical Co  
 Boston, Mass :.....Ame & Co  
                                 Bedford Chemical Co  
                                 Dam's Remedy Co  
                                 Flower Medical Co

Westfield, Mass :.....J. W. Colton & Co  
 Detroit, Mich :.....Williams, Farrand & Co  
 Minneapolis, Minn : German Medicine Co  
 St. Paul, Minn :.....Sigler Manfg Co  
 Kansas City, Mo :...Benso Medicine Co  
 St. Louis, Mo :.....Am Remedy Co  
                                 S. Pfeiffer Manfg Co  
                                 Southwestern Medicine Co  
                                 Wolflard Salve Manfg Co  
 Newark, N. J :.....B. S. Lauderdale & Co  
 Buffalo, N. Y :.....Powell & Plimpton  
                                 D. Ransom & Co  
 New York City :.....J. P. Bush Manfg Co  
                                 H. Planters & Son  
                                 Winchester & Co  
 Rochester, N. Y :.....A. B. Grover & Co  
                                 G. Hahn & Co  
 Troy, N. Y :.....L. Burton & Co  
                                 J. L. Thompson & Co  
 Cincinnati, O : .....Eureka Medicine Co  
                                 J. N. Harris & Co  
                                 John D. Park & Sons  
 Philadelphia, Pa :...Geo. W. Ellis  
 Providence, R. I :...Geo. A. Peckham  
 Fort Worth, Texas : Dashwood Medical and Chemical Co  
 Fond du Lac, Wis : Stiles & Givens Co

#### REFRIGERATOR MANUFACTURERS.

Chicago, Ill :.....Chicago Refrigerator Manfg Co  
                                 Jackson Refrigerator Co  
                                 Lorillard Refrigerator Co  
                                 Geo. N. Pierre & Co  
                                 Ridgeway Refrigerator Manfg Co  
                                 Thayer Portable Refrigerator Co  
                                 Wickes Refrigerator Co  
 Morris, Ill :.....Globe Refrigerator Co  
 Baltimore, Md :.....Roloson's Dry Air Refrigerator Co  
 Grand Rapids, Mich : Grand Rapids Refrigerator Co  
 St. Louis, Mo :.....St. Louis Refrig. & Wooden Gutter Co.  
 Buffalo, N. Y :... ..The Ross Pat. Refrigerator Co  
                                 S. Gray & Co  
 New York City :.....Belding Mfg Co  
                                 L. H. Mace & Co  
 Burlington, Vt :.....Baldwin Dry Air Refrigerator Co  
 Philadelphia, Pa :...John P. Maher & Co  
                                 Ridgeway Refrigerator Co

### **SADDLERY, HARNESS, &C.**

Louisville, Ky :..... Harbison & Gathright  
Langdon-Krieger Saddlery Co  
New Orleans, La :... Baker, Slos & Co  
St. Louis, Mo :..... P. Burns & Co  
P. J. Peters Saddlery & Harness Co  
Buffalo, N. Y :..... National Harness Co  
New York City :..... Whitman Saddle Co  
Cincinnati, O :..... D. S. Carrick & Co  
Grossmann, Gouvion & Co

### **SEWING MACHINE MANUFACTURERS.**

Hartford, Conn :..... Weed Sewing Machine Co  
Chicago, Ill :..... Foley & Williams Mfg Co  
Boston Mass :..... Reece Button Hole Machine Co  
Florence, Mass :..... Florence Machine Co  
New York City :..... Bonnaz Embroidering Machine Co  
The Florence Machine Co  
Kruse Mfg Co  
National Machine Co  
New Home Sewing Machine Co  
Rotary Sewing Machine Co  
Standard Sewing Machine Co  
Tracy Sewing Machine Co  
Union Special Sewing Machine Co  
Wheeler & Wilson Mfg Co  
Wilcox & Gibb, Sewing Machines  
Philadelphia, Pa : Am. Button Hole, Overseam and S. Mach. Co  
Button Sewing Machine Co  
Deweese Fabric Trimmer Co  
Domestic Sewing Machine Co  
Lamb Machine Co  
Singer Mfg Co

### **STEAM ENGINE MANUFACTURERS.**

(See also Iron Works, Machinery, etc.)

San Francisco, Cal : Atlas Iron Works  
C. H. Evans & Co  
Hartford, Conn :..... The Hartford Dynamic Co  
New Haven, Conn :.. The Norwalk Iron Works  
Wilmington, Del : ... Remington Machine Co  
Chicago, Ill : ..... Rob. Tarrant  
Boston, Mass :..... Atlantic Works  
Ge. K. Paul & Co  
Detroit, Mich :..... The Collier Steam Yacht & Engine Works  
Fulton Iron & Engine Works  
St. Louis, Mo :..... L. M. Rumsey Mfg Co  
South New Market, N. H. : Swamscot Machine Co

Buffalo, N. Y :.....H. G. Trout  
 Fishkill-on-the Hudson, N. Y : Fishkill Landing Mach. Co  
 Newburgh, N. Y :...William Wright  
 New York City :.....N. Y. Engineering Co  
                                 N. Y. Safety Steam Co  
                                 Skinner Engine Co  
                                 Triple Thermic Motor Co  
                                 Wells Engine Co  
                                 Westlinghouse Church, Kerr & Co  
 Troy, N. Y :.....Knowlson & Kelley  
 Salem, O :.....Buckeye Engine Co  
 Allegheny, Pa :.....Thos. Carlin's Sons  
 Corry, Pa :.....H. King & Sons  
 Philadelphia, Pa :...High Bros & Co  
                                 Jos. Lumley  
                                 M. R. Muchle  
                                 Neafie & Levy  
 Pittsburg, Pa :.....Thos. Carlin's Sons  
                                 Combination Engine Co  
                                 Robinson Rea Mfg  
 Nashville, Tenn :....Davidson Engine Co  
 Madison, Wis :.....Madison Mfg Co  
 Milwaukee, Wis :...The Wilkin Mfg Co  
 Racine, Wis :.....Racine Hardware Mfg Co

#### STEAM HEATING.

Denver, Col :.....Hughes & Keith, Sanitary Supply Co  
 New Haven, Conn :...New Haven Steam Heating Co  
 Washington, D. C :..Florida Steam & Hot Water Heaters  
 Chicago, Ill :.....The John Davis Co  
                                 A. A. Griffing Iron Co  
                                 Rice & Witacre Mfg Co  
 Baltimore, Md :.....Bartlett, Hayward & Co  
                                 Wm E Wood & Co  
 Boston, Mass : .....L. Descalzo & Co  
                                 Gurney Hot Water Heater Co  
                                 Kohler Furnace & Steam Heating Co  
                                 B. F. Sturtevant  
 Detroit, Mich :.....Detroit Radiator Co  
                                 A. Harvey & Son  
 Minneapolis, Minn : Haptun Steam Heater Co  
                                 Porter Steam Heater Co  
 St. Paul, Minn :.....Young Safety Heating Co  
 St. Louis, Mo :.....St. Louis Steam Heating & Ventil. Co  
 Omaha, Neb :.....Strang & Clark  
 New York City :.....Gold Car Heating Co  
                                 The Gaubert Mfg Co  
                                 Gurney Hot Water Heater Co

New York City :.....J. F. Pease Heaters  
   New York Steam Co  
 Syracuse, N. Y :.....Pierre, Butler & Pierre Mfg Co  
 Reading, Pa :.....Reading Steam Heating & Vintel. Works  
 Providence R. I :.....Providence Steam Heating Co  
 Milwaukee, Wis :... Bayley Steam Heating Co

#### STEAM PUMP MANUFACTURERS.

Los Angeles, Cal : ..Dow Steam Pump Works  
 Chicago, Ill :..... Barr Pumping Engine Co  
   Nye Steam Vacuum Pump Co  
 Dubuque, Ia :.....National Iron & Brass Works  
 Boston, Mass :.....John Post, Jr. & Co  
 Holyoke, Mass :.....Dean Steam Pump Co  
 St. Louis, Mo :.....Henry Worthington  
 Omaha, Neb : .....Churchill Pump Co  
 Jersey City, N. J :...Maslin's Pulsator Pump  
 Brooklyn, N. Y :.....Clayton Steam Pump Works  
   Niagara Steam Pump Works  
 Buffalo, N. Y :.....The Buffalo Steam Pump Co  
 New York City :.....Hall Steam Pump Co  
   Woodward Steam Pump Co  
 Canton, O :.....The Canton Steam Pump Co  
 Cincinnati, O :..... Brandford Well and Pump Co  
 Philadelphia, Pa :.....Barr Pumping Engine Co  
   Gordon Steam Pump Co  
 Pittsburg, Pa :..... Kay Bro. & Co  
   Pittsburg Supply Co

#### STOCK BROKERS.

Mobile, Ala :.....F. W. Miller & Co  
 San Francisco, Cal : A. J. Angell  
   W. Bannan & Co  
   E. Cahill & Co  
   Donovan & Weinschenk  
   A. W. Foster & Co  
   E. Gauthier & Co  
   Greene & Co  
   C. P. Harris & Co  
   C. H. Kauffman  
   Ives & Co  
   Kuhl, Roemer & Co  
   Manheim, Staples & Co  
   H. H. Noble & Co  
   Otis & Co  
   Rehfish & Co  
   Salomon Manfg Co  
   H. B. Smith, Jr.

San Francisco, Cal :	W. D. Valentine & Co
	S. B. Wakefield & Co
	T. Whitely & Co
Hartford, Conn.....	R. R. Abbe
	J. B. Russell
	J. G. Woodward
New Haven, Conn...	Brunnell & Seranton
	W. T. Hatch & Sons
Wilmington, Del....	R. R. Robinson & Co
Washington, D. C...	E. Brand & Co
	Cooke & Co
	C. T. Havener & Co
	Moore & Schley
	B. K. Plain Co
	B. B. Williams
Atlanta, Ga.....	H. Castleman
	J. A. Hall
	E. T. Paine
	The Tolleson Commission Co
Augusta, Ga.....	J. J. Cohen
	J. U. Jackson
Columbus, Ga.....	J. Blackman
	Johnson & Norman
Macon, Ga.....	G. T. Kershaw
	J. W. Lockett
Savannah, Ga.....	H. Blim
	J. Ehlen
	G. W. Lamar
	L. A. Wakeman
Chicago, Ill.....	C. V. Banta
	D. F. Baxter
	A. J. Cutler
	A. Durham
	L. H. Freiburger
	M. Strans
	W. B. Wrenn
Fort Wayne Ind :...	L. C. Hurm
Lafayette, Ind : .....	Potter & Orth
Louisville, Ky : .....	Almstedt Bros
	J. T. G. Galt
	John Green
New Orleans, La:...	H. Bier
	J. L. Herwig
	J. Klein & Co
	H. Lange
	A. J. Louis
	E. Eisenhauer
Portland, Me:.....	J. S. Morris

Portland, Me :.....A. Shurtleff  
 Baltimore, Md : .....R. H. Harris  
                                 C L. Howell  
                                 Kummer & Becker  
                                 G. Ober  
 Boston, Mass :.....Adams, Blodgett & Co  
                                 M. R. Ballou  
                                 J. H. Brown  
                                 Chase & Barstow  
                                 J. E. Hall  
                                 F. N. Mudge  
                                 B. F. Tenney  
                                 H. Walter & Co  
                                 Waterman & Co  
 Minneapolis, Minn : G. W. Hood, Jr.  
                                 M S. Lewis  
 St. Paul, Minn :.....Doran M. & Co., 311 Jackson  
                                 Levy A. M., 20 Gilfillan blk  
                                 Maher E. A. & Co., 307 Jackson  
                                 Murray, Rank & Co., 23 Nat'l G.A. bank bldg  
                                 Stokes S S, 333 Jackson  
                                 Walker & Co., 1 Gilfillan blk  
 Kansas City, Mo : .Abell M. B., 11 Wales bldg  
                                 Arnold J H., 3 James b'dg  
                                 Jarvis, Conklin Mortgage Tr. Co., N.E. bldg  
                                 Wallman W. J. & Co. 12 Wales bldg  
 St. Louis, Mo : .....H Brentano  
                                 J Campbell  
                                 Donaldson Bond and Stock Co  
                                 A. G. Edwards & Son  
                                 L. Goldman  
                                 Kohn & Co  
                                 U S. Investment Co  
                                 W. F. Wernse & Co  
 Omaha, Neb :.....Dale J., 404 Merchants Nat. Bank bldg  
                                 Dike A P., 310 S 15th  
                                 Wilson W. A., 1418 Harney  
 Brooklyn, N. Y :.....J. Lehrenkrauss  
                                 G. H. Prentiss & Co  
 Buffalo, N. Y :.....A. Church  
                                 W. R. McNiven  
 New York City :.....Am. Investment and Finance Co  
                                 G. A. Bergman  
                                 I. S. Bernheimer  
                                 Blum & St. Goar  
                                 James Boys Co  
                                 C. H. Currie  
                                 J. R. Day

New York City :...Emerson & Co  
                           L. S. Frankenheimer  
                           Gregory, Ballou & Co  
                           G. M. Hahn-  
                           Keilholz Bros  
                           Kohn, Popper & Co  
                           E. L. Oppenheimer & Co  
                           Randall & Wierum  
                           Rosenheim & Herzog  
                           I. Sonnenberger  
                           Springer & Co  
 Rochester, N. Y :...W. C. Fox & Co  
                           J. M. Lux  
                           A. Robinson  
 Troy, N. Y : .....L. Boardman  
                           Neher & Carpenter  
                           Ogden, Calder & Co  
                           W. W. Willard  
 Cincinnati, O :.....W. S. Brown  
                           R. E. Dunlap  
                           G. W. Durrell  
                           J. W. Haley  
                           S. B. Keys  
                           E. N. Laralde  
                           I. N. Stoeckle  
                           J. H. Vornholz  
                           I. Wolf  
 Cleveland, O :.....H. C. Dening  
                           T. A. Kelley  
                           C. H. Potter & Co  
                           C. C. Viall & Co  
 Columbus, O :.....Hanson & Co  
                           J. N. Champion  
 Dayton, O :.....M. Schaefer  
                           J. A. Schieble  
 Springfield, O :.....W. S. Thomas & Bro.  
                           L. S. Weaver  
 Philadelphia, Pa :...H. F. Bachman  
                           H. Borden & Co  
                           W. Curtiss  
                           A. D. & W. P. Fell  
                           E. Henderson  
                           Howard, Bell & Co  
                           F. Huth  
                           E. W. Keene  
                           T. C. Knight  
                           K. W. Magill & Co  
                           Moelling & Autenreith



Philadelphia, Pa:..W. S. Myers & Co  
                           E. B. Pall  
                           Philadeldhia Stock Exchange  
                           Stahl & Straub  
                           S. H. Thomas  
                           J. K. Wildman  
                           E. K. Wohlgamuth  
 Pittsburg, Pa:.....S. Arnold  
                           S. W. Black & Co  
                           J. W. Drape & Co  
                           Geo. B. Hill & Co  
                           Kuhn Bros  
                           S. J. Pentecost  
                           Whitney & Stephenson  
 Providence, R. I: B. B. Barrows  
                           H. C. Cranston  
                           H. Pearce  
                           S. Frash & Co  
                           Q. R. Weeden & Co  
                           J. Wilbur & Co  
 Charleston, S. C:..Cochran & Alexander  
                           H. DeLeon  
 Norfolk, Va:.....Morris & Morris  
                           C. T. Sydnor  
 Richmond, Va:.....C. W. Branch & Co  
                           Davenport & Co  
                           R. W. Maury  
                           W. G. Taylor & Co  
                           J. C. Williams  
 Nashville, Tenn:..Arrington & Farrar  
                           J. Davis  
                           H. Scovel  
                           Moore & Co  
 Brownsville, Tex: E. C. Forto  
 Corsicana, Tex:.....Frost & Barry  
 Dallas, Tex: .....A. W. Childress  
 Galveston, Tex:.....B. A. Isaacs & Co  
 Houston, Tex: .....Canon & Seligson  
 Milwaukee, Wis:..E. H. Goodrich  
                           F. S. Iole  
                           Alexander Cohen

#### **STOVE MANUFACTURERS.**

San Francisco, Cal: San Francisco Stove Works  
 Denver, Col:.....Great Western Stove Co  
 Stamford, Conn:.....Stamford Foundry  
 Chicago, Ill:.....Calorific Wonder Co  
                           Chicago Stove Works

Chicago, Ill:.....Fuller & Warren Co  
 Louisville, Ky:.....Bridgford & Co  
                                     The Progressive Stove Works  
 Baltimore, Md:.....The B. C. Bibb Stove Co  
                                     S. B. Sexton & Son  
                                     Isaac A. Sheppard & Co  
                                     Wm. E. Wood & Co  
 Boston, Mass;       Barstow Stove Co  
                                     Boston Furnace Co  
                                     Smith & Anthony Stove Co  
 Detroit, Mich:.....Detroit Stove Works  
                                     Michigan Stove Works  
                                     Peninsular Stove Co  
 Minneapolis, Minn: Northwestern Stove Works  
 St. Paul, Minn: .....Central Stove Works  
 Kansas, Mo: .....C. W. Fairman Stove Co  
 St. Louis, Mo:.....Bridge & Beach Co  
                                     Evers Stove Mfg Co  
 Omaha, Neb:       Duffey Trowbridge Stove Mfg Co  
 Albany, N. Y: .....Albany Stove Co  
 New York City.....J. L. Mott Iron Works  
                                     Peekskill Stove Works  
                                     Richardson & Boynton Co  
                                     The Richardson & Morgan Co  
 Rochester, N. Y: ...Sill Stove Works  
 Troy, N. Y;.....Troy Arch. Iron Works and Foundry  
 Cincinnati, O: .....Chamberlain Stove Co  
 Cleveland, O:.....Winslow Safety Car Stove Co  
                                     The Standard Lighting Co  
 Columbus, O: .....Capital City Stove Co. Works  
 Mansfield, O: .....The Ohio Valley Foundry Co  
 Philadelphia, Pa:...Abraham Cox Stove Co  
 Pittsburg, Pa:.....Crea, Graham & Co  
 Nashville, Tenn;..Phillips & Buttorff Mfg Co  
 Milwaukee, Wis;...Brand Stove Co

#### **TINWARE MANUFACTURERS.**

Chicago, Ill:.....Chicago Stamping Co  
                                     Chicago Tin & Hardware Co  
                                     C. Shepard, Sidney & Co  
 Baltimore, Md:.....Mathews, Ingram & Co  
 Boston, Mass:.....Dover Stamping Co  
                                     Lalaurge Grosjean Mfg Co  
                                     Hollander, Bradshaw & Folsom  
 Elmira, N. Y:.....S. H. Lancy  
 New York City.....The Central Stamping Co  
                                     Reilley Bros  
 Cincinnati, O: .....The Cincinnati Stamping Co

Cincinnati, O: .....Western Tin and Japan Mfg Co  
Philadelphia, Pa:....C. P. Pool & Co  
Milwaukee, Wis:.... Kieckhefer Bros. & Co

#### **TOOL MANUFACTURERS.**

San Francisco, Cal: San Francisco Tool Co  
Hartford, Conn:.....The Billings & Spencer Co  
Chicago, Ill:.....Cleveland Twist Drill Co  
Bangor, Me: .....E. Mansfield & Co  
Boston, Mass: .....Am. Axe and Tool Co  
                                Goodnow & Wightman  
                                H. H. Harvey  
                                Tremont Mfg Co  
Springfield, Mass:.. Hardware & Tool Co  
Detroit, Mich: .....Detr. Edge & Tool Works  
St. Louis, Mo:.....Western Forge and Tool Works  
Buffalo, N. Y:.....American Bit Brace Co.  
New York, N. Y:....American Pneumatic Tool Co  
                                American Tool Co  
                                Manhattan Tool Co  
Syracuse, N. Y:.....Syracuse Twist Drill Co  
Cleveland, O:.....Standard Tool Co  
                                The Worden Tool Co  
Meadville, Pa:.....Barret Vice and Tool Co.  
Philadelphia, Pa:..Geo. J. Ellis & Sons  
                                Palmer, Cunningham & Co  
Pittsburg, Pa:.....Iron City Tool Works  
Madison, Wis:.....Lake City Tool Co

#### **TOY MANUFACTURERS.**

Birmingham, Conn:A. B. Ruggles  
Bridgeport, Conn:..Ives, Blakeslee & Co  
                                C. Ritchel  
                                Watson Iron Works Co  
Chatham, Conn:....Thewall Mfg Co  
Derby, Conn:.....Gilbert & Sons  
Durham, Conn:.....Merriam Mfg Co  
East Hampton, Conn: Bevis Bro. Mfg Co  
                                East Hampton Bell Co  
New Haven, Conn: C. D. Goodwin  
Middletown, Conn: W. F. Chapman & Co  
                                Samuel Kirby  
Plymouth, Conn:..Whistle Wheel Toy Co  
South Norwalk, Conn: Lockwood Mfg Co  
Chicago, Ill:.....Chicago Toy & Fancy Goods Co  
                                Colby Toy Mfg Co  
                                St. Nicholas Mfg Co  
Baltimore, Md:.....N. Y. Toy & Novelty Mfg Co

Fitchburg, Mass:...Novelty Turning Co  
 Leominster, Mass., The W. S. Reed Co  
 Lowell, Mass.....Merrimack Croquet Co  
 New Bedford, Mass., Weedon Mfg Co  
 Springfield, Mass.,...Milton Bradley Co  
 Worcester, Mass., Rowson Bee Hive Co  
 Coldwater, Mich.,...Stevens & Sperry  
 Detroit, Mich.,.....Henry C. Hart Mfg Co  
 Grand Rapids, Mich., Crescent Mfg Co  
 Pattersville, Mich.,...Benton Mfg Co  
 Bristol, N. H.,.....A. Hutchinson  
 Clearmount, N. H....Union Toy Foundry Works  
 Nashua, N. H.,.....Nashua Novelty Works  
 New York, N. Y.,...Eureka Trick & Novelty Works  
                             McLaughlin Brothers  
                             The Stobel & Wilken Co  
                             Weston Toy Co  
                             Wilson Brothers  
 Cincinnati, O.,.....P. J. Marqua Co  
 Philadelphia, Pa.,...S. E. Clark  
                             James Fallows & Sons  
                             D. Highman & Sons  
 Milwaukee, Wis.,...Instructive Toy Co

### **TURNERS.**

San Francisco, Cal: San Francisco Wood and Ivory Works  
 New Haven, Conn.. The J. Smith Co  
 Chicago, Ill; .....M. Garrison.  
                             Keller & Co  
 Fitchburg, Mass:...Novelty Turning Co  
 Worcester, Mass:...O. B. Rawson  
 Newark, N. J:.....John B. Oelkers  
 Patterson, N. J:.....B. Atkinson  
 New York City:.....E. B. Estes & Son  
                             New York Pattern Mach. and Dic. Co  
 Alleghany, Pa:.....Alleg. Geomet. Wood Carving Co

### **VENTILATORS.**

San Francisco, Cal: P. H. Jackson & Co  
 Chicago, Ill: .....Andrews & Johnson  
                             Cool Air Drying and Ventilating Co  
 Boston, Mass., .....National Ventilation Co  
                             B. F. Sturtevant  
                             U. S. Aerophor Air Moist & Venti. Co  
                             U. S. Ventilation Co  
 Minneapolis, Minn., Emery Mfg Co  
 St. Paul, Minn.,...Exhaust Ventilator Co

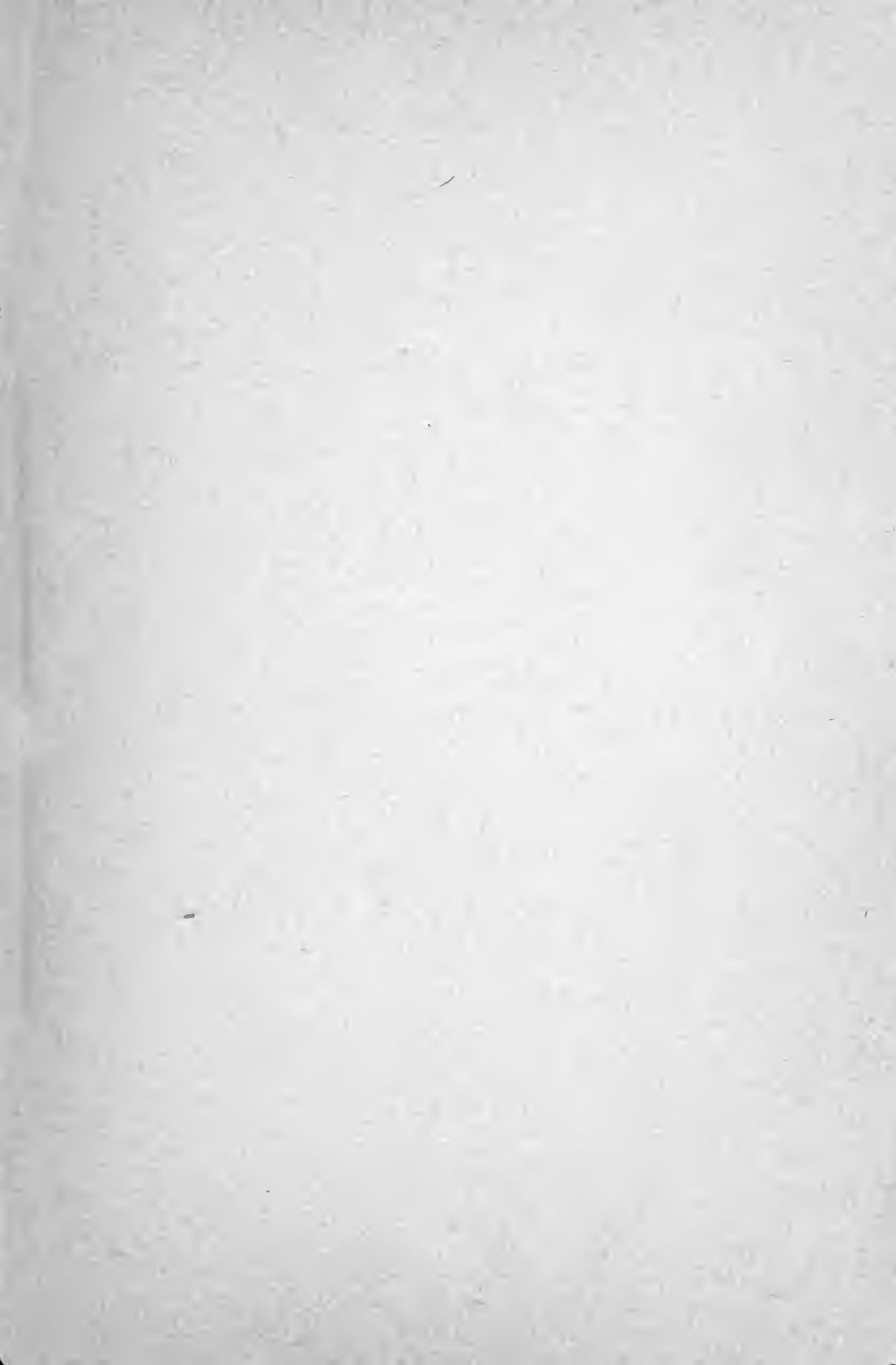
New York City.....Gouge Heating & Ventilating Co  
 The Simmonds Mfg Co  
 Standard Ventilating Co  
 The Sanitary Ventilating Co

**WASHING MACHINES, WRINGERS, &c.**

Chicago, Ill:..... Colby Wringer Co  
 Troy Laundry Machine Co  
 Fort Wayne, Ind.,...Horton Mfg Co  
 Boston, Mass.,.....J. F. Baldwin & Co  
 New York City,..... Cataract Washing Machine Co  
 Empire Laundry Machine Co  
 The A. M. Dolph Co  
 Troy, N. Y.,.....Adams Laundry Machine Co  
 Cincinnati, O., .....F. M. Watkins  
 Alleghany, Pa.,.....Loyal Mfg. Co  
 Philadelphia, Pa.,...Restein Mfg. Co







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